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# Trade bans anger users in S. Africa

DP community fears halt in U.S. computer imports





# AT&T, Sun

## Debuts link to redo Unix firm's line of software

**Martin Marietta offerings** further its master plan

# King without a kingdom

# Datapoint head offers buy-out

# ADR INVENTED MIGRATION SOFTWARE SO YOUR COMPANY CAN MOVE AHEAD WITHOUT FALLING HOPELESSLY BEHIND.



Next time Bigetow, took before you quantum teap:

I fyour company is growing, you've probably realized your old data base management system (DBMS) just can't do all the things you need it to do. It takes too long to write programs, it won't give you the information man agement needs and it's nearly impossible for end-users to figure out how to use. So it's time you moved to a new DBMS.

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And now programmers can use powerful 4th generation productivity tools like ADR/IDEAL\*, relational query languages like ADR/IDEAL\*, and decision support systems like ADR/EMPIRE\*. And even end-users have easy access to mainframe data through their own personal computers, using ADR/PC DATACOM\*.

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# STC enhances storage tool NAS beefs up systems

Add-ons target 6600. 9100 processor lines

# ITC upholds Tandon claim

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The entire WUV/VMS package is only \$8,795, includ-ing the EXOS 204 Ethernet controller (quad-size Uni-sus board), EXOS 8040 TCPIP software, EXOS 1100 transactiver and cables. And the entire UNIX System V backage is only \$7,295.

scelan also offers similar packages for DEC PDPs, NEX supermicros, and the IBM PC, XT and AT.

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ARP

# **Sortland Yard** warns against "Raffles-type sort programs."

Call (201) 568-9700.

Ask for . Inspector SyncSort! n an extraordinary move, Sortland Yard today warned data processors throughout the world to be on guard against what it ermed "gentleman-bandit sort programs."

The warning was issued by one of the Yards best known figures, respector SyncSort, who has sometimes been called "a legend in its own CPU time."

The inspector said, "One of the difficulties in apprehending these chaps is that they look so eminently respectable. They're members of a fine did hardware family. They're been to the right schools. And they invariably carry out their burglanes, while wearing a dinner jacket from Saville Row."

EXPERT COMPUTER CRACKERS. "But once the party is underwey," the inspector said, "these chaps head straight for the place where the family jewels are kept. They can crack open a computer and make off with a long's ransom in computer resources before you can say "Hound of the Baskervilles."

To indicate "the true cost of this sort of misbehavior," the inspector



DFSORT, Release 7.0

MES TAKE HOSTAGES. The inspector note esse black-sheep programs often take a dreadful foll of pro-armers. They are often tied up for days on end and foread it. And the design of the design of the design of the debugging. And the heartlessty deprived of the lation-saving features that are tak granted in most parts of the civilized sorting world." Among these the inspector listed:

- JORTWRITER
  MULTIPLE OUTPUT
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TELEPHONE BEST DEFENSE. The inspector urged data processors to call the Yard immediately if they suspect their centerirested by a Raffles-type sort program. The number is 2011;568-970. Well send over one of our highly trained sort detectives to track the culprit down.

stoned as to value vite cupin down; stoned as to whet would be done with sort programs caught landing computer centers, the expector replied. They will be a just and speedy that, if found guilty, they will immediately an



ebuts link Martin farietta's software line

process a SOREWARTE HIME corrowing from the theory of evo-n, the Natural Selection theme is aded to convey the firm's goal of rating and building on the cape-ned of its emissing products, occasions, for example, combines to the company of the company, the Someration (OFLA) with the monte driven application devi-ers yestem and its Cobol/XE de-ment driven are the company of the company of

Martin Marietta tools aim at integrated line

# Micro use sells messaging to top execs

obs.
Typical of this trend is the experice of Citicorp, the country's largest
ink, which initially set up a turnry stand-alone messaging system
re years ago, "We started out when
to boss said, 'Mall is mall, whether
ard copy or electronic. Pat It in,'"
id Richard Coughenour, Citicorp
co-president for office automation

ability of the second of the s

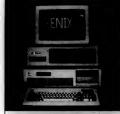
case incoming in their print direct feetend different regions.

According to Stanky Prechasks, their of the USA's special program was converted into a two-way communications network, and eventually, a two-way, region-specific influe-operation. This loss place over the spece of a few years. Looking back, over the program of the program

mail.

Last year, the worldwide dards-setting body, the Consul Committee on International Teny and Telegraphy, publishe draft version of a protocol sta CCITT X.400, that will permittent message-handling system communicate if the protocol has

bulk into the errors are seen as a season court of the season cour



#### Finally, a complete XENIX subsystem for the AT.



# Martin Marietta tools aim at integrated line

Consensus user calls for integration ties





P manager Bennett: ing without a kingdo d in the interest of greater data rity, required encryption of all mitted data. But, he hastened to trate, these standards still leave perating units with consider-

my, however, can also stivity, Bennett said. Thr he recalled, the company

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crafts hadership decided to intime duch operating unit. However
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not access data on their company mainframe, and, because the subsi-iaries are independent, Bennett cot do nothing for them. In a congloma at of independent subsidiaries, mainframe access is "the primary responsibility of the operating uni-

citics, become, a six the new Yorks, and the citics of the

Technologies.
To reduce its backlog, Bennett said, the firm will soon "put in plac [software development] trois that will do a lot more than one program mer can do." In classic United Technologies fashion, those packages w

Turns Speghetti Code COBOL Into Structured COBOL **Automatically** 

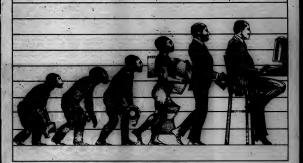


ACHT.E





#### A HISTORY OF DECISION SUPPORT SOFTWARE



# Comshare's System W loes beyond up-to-date

1970's business modeling system bolted-on data management billities is as up-to-date as a wax and a stylus. And about as effect lightening DP sworkload. It is a superior of the stylus of the stylus

ser needs.
For example:
With System W's integrated data
nangement and File Power, you can
st up data acquisition sequences
cluding interfacing to corporate and
cternal data in a variety of forms. File
the work of the maked question, "How

ol connect to the deta!"
And with Distributed W, you have empatible micro DSS software with under the property of the property

ting prices plane and the prices plane plane and the prices plane plane and the prices plane pla

We started from scratch. System W is engineered to take full advantage of mew technology. It is not an upgrade of an old product straining to keep up with the times. System W is as up-ti-for more information, call Chris Relly at Comshare toll-free: 1-800-922-SYSW (in Michigan call: 313-994-400), Or simply mail your business card to: Comshare, P.C. Bex 1588, Ann Arbox. Michigan 46106.

#### South Africans prepare for U.S. DP export ban

extended if the Congress considering under insufficient progress is being made; effect change," van Vuuren sai "The South African customers wouldook to other suppliers."

One of those suppliers is Persete

One of those suppliers is Perset Lad, the Steath African company the sale Blacch Led. maintranes is South Africa through MASF of the South Africa through MASF of the South Africa through MASF of the said is product a take U.S. on BASF Systems Copp. in Bestfort, Mas PASF Section Copp. in Bestfort, Mas of Parsetel has made major inrous from BM's maintrane marketing it this country," said Alan Dawson, of the Company of the Co

iseding vendor in South Africa, Daw oon said.

Other companies with a stron presence is South Africa are Siemen AG and Nixdorf Computer AG or West Germany and KL of England according to van Vuuren. "The Sout African maghetplace is a commo o all the electronic data processin markets in the rest of the world,

warners in the rest of Law worns
van Vauren said.

Stillen on the Stillen of Compet
able reviews in Swith Addica rais
the reviews in Swith Addica rais
The restricted provinces
The restricted provinces
may be 20% of the total Swith Addica
can computer market, van Vauren
timated. "It is a very large sector v
have been excluded from," he midd.

Rizactly what commuter enginee

Exactly what computer equipms the Department of Cooperation Pretoria is using to administer t pass-book system, in which each the nation's 24 million blacks is st

#### CSC withdraws from South African firm

Computer Sciences Corp. (CSC) of E Seguande, Califf, has withdrawn it 20% insterest in the South Africa computer services firm. Compute Science, Ltd. (CSL) of Johnstoeburg Science, Ltd. (CSL) of Johnstoeburg declined townsent on very the copany pulled out. Jim Furlong, manuer of corporate communications for the firm, said, "I don't see much difference between this and what othe freemes between this and what othe

companies are deing."

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press as saying that the companwithdraward had nothing to do wi
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"Asything that languase with a U
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litical more, but I don't believe U
is the case here," Joses and "Cil
has cleans to inverse in the devise
the U.S. ruther them in [CISI, As is
throw, me did not make a prefit in.

Of a total revenue of \$40 millio rand in South Africa hast year, CS heet \$5 million rand, the firm he and. The South African press report of the U.S. company has a \$14 million raind interest in CSL, about \$ posedly registered, is a state secret, several sources said.

Van Nunen, the Computer Uners Council spokesman, said the U.S. retrictions would not prevent South African users from obtaining needed scheeder. "If the suspender left con-

African users from obtaining needed technology. "If the supply jof computer equipment] were to be restricted, it will not stop technology from coming into Bouth Africa," he said. "The only impact will be that the U.S. will become a supplier looked on with hese faver for any future decisions. South Africans will look elsewhere. It will be a great pity."

The Japanese and Europeans would be the most likely to stem into

d be the most likely to step into breach, is van Nunen's view. coording to an IBM spokesman isliking in the firm's South Afribuniness affairs, who saled not specialistic to the threat of trade sictions has caused some custom-

ers to "hedge their bets and go with foreign competitors." And sales representatives from foreign commriss are exploiting the users' fears of leaing their computer equipment sources, the spokessen said. Addressing the restrictions, the spokesman said, "We prefer to operate

without regulation, but we comply with all U.S. laws and regulations. Jur preference is to operate in a free narket environment." Clarifying what he described as a misconception, the IBM applementa udded, "Most people believe we're in

ion't manufacture there, and we pay qual pay for equal work."
Whether the Japanese and Euroeean computer companies would sympathize with a U.S. restriction on it also of equipment to the government and yet known, but is considered

columnstory, Product Manager II.

To Calliers, andi, "Our standpoint is recompty with all the regulation and principles of the respect we can 
principles of the respect we can 
rise of companies that supply equiment to us." He said be understood 
to Japanese "are reviewing the six

tites," but his company has not fee 
mily requested a ruling.

Wander spotessmen describe the

mily requested a ruling.

Wander spolessmen describe the Strade restrictions as a two-edgedrect becames many U.S. companies of the strade of

A word for those who just bought a Unix system.

U.S. high-tech firms' compliance rates high

Ouch!

UMBMAIA

# ERRO

The alternative is alarming



# AT&T, Sun to converge on Unix standard

orn Call Standards of the Art Spokesman and Art Spokesman said.
According to an Art Spokesman, the agreement is precedent setting because it will incorporate non-Art modifications to Unix into Art To System V definition for the first time.

# AT&T rolls out 1M-bit chip

Full production slated for early next year

BERKELTY HERGITS, N.J.—
Claiming a home on widespread conbeing a home on widespread conbeing production of IIA-bit readenbeing production of IIA-bit readenaccount memory chips that it is now
offering for sampling by selected
The company said it plans limited
consumeral production by the end of
The company said it plans limited
consumeral production by the end of
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In a prepared background sta-nent, Bob Lucky, executive direct of AT&T Bell Laboratories' Comm-leations Sciences Research Divisio-aid the 1M-bit chip will allow us down to cross a threshold in the or of silicon memory that will make it of silicon memory that will make it

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# Regulation of bulletin boards faces strong opposition

purpose.
Examples of these legislative of forest include the following.

Examples of these legislative of forest include the following.

It (Bern Paul S. 1966) for the following of the Va.) introduced a hill (B. 1906) to make illegal pumpopaule building the following of the fol

'The technology of bulletin board sys-tems has developed faster than the ethics.



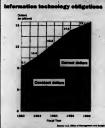
709

#### Government DP costs plateau

#### Outside vendor services to consume half of budget

the Pedr

nning and securi



#### MEMORANDUM

#### IBM SYSTEM 34 USERS TO:

FROM:

OMNI RESOURCES, INC. (Subsidiary of The Kirchman Corporation

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DATE: 1985

#### SUBJECT:

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# Census Bureau counts 1984 hardware shipments

#### Bureau tallies robot 'births'

y much netts
WASHINGTON, D.C. — The U.S.
horeau of the Cessus, after nearly
100 years of counting people, has
ounted the number of robots "brin"
in the U.S. for the first time; 5,555 vootis in 1894.
The new report usid 76 companies
inhipped that number of complete rototis in 1894, at a value of \$306.7 mil-

The automotive industry is the releasy customer of industrial reteriorary customer of industrial reconstruction of the customer of the cus

re the Census Bureau survey, tatistics were either estimates stry analysts and consultants stics compiled by the Robotic les Association (RIA) of Dear-

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# **EDITORIAL**

## The Japanese 'problem'



LETTERS

# VIEWPOINT

# On students, computers and the Soviets



# Maintaining morale when the contractors enter



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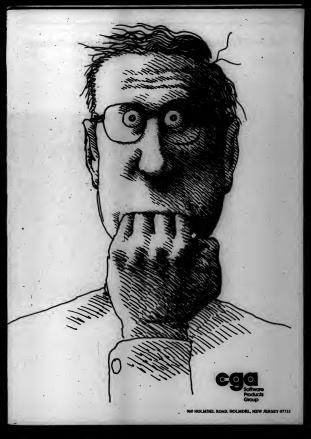
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# Today's MIS managers seen as facilitators of change



Traditional wisdom has it that computers and their use in MIS represent a mature technology supported by a substantial industry infrastructure that is conservative, slow moving and struc tured. Work is handled in an orderly way by professionals caution is the watchword, and the boat is seldom ocked. But that was yester

Today, the only constant in the world of computers and MIS is change. The challenge to those in the informa tion field is to recognize and understand these changes and then to adapt to them The challenge to general management is to facilitate that process of adaptation. What are these changes? New machines, new systems new approaches? Yes, all of these, but the basic underly-ing change is the move of computing and other technological capabilities out into the workplace it is that phenomenon and its ramifications that will dominate the world of information tech nology in the years ahead.

#### is started the move The move started with the

introduction of minicomputers that offered an alternative to large data centers as a ource of computing power. The term "distributed data processing" was coined to de-scribe this development. In practice, minicomputer installations became small data centers managed by technical specialists, operating in parallel with and sometimes connect The advanced office sys-

field continued the trend. It introduced word processing, electronic mail, teleconferencing and other capabilities for nonspecial in the process, changed the face of the information technology world and enlarged beyond measure the such capabilities as part of their regular work

owever, the advanced of fire systems field has been slow in developing One can point to many success stories, but overall, the field has not yet lived up to its potential. Nevertheless, advanced office systems represent a major thrust to move tech nology into the workplace. The pace of that change has accelerated greatly with the

advent of micros. It is important to recognize that the driving force behind the introduction of microcomputers has not been the information technology community. Rather, it has nonspecialists heen want computing capabilities available at their fingertips. In many cases, micros are be ing introduced over the ob-

their needs be met This development is a ba-

jections of information technology professionals, but, as legitimate as some of those objections may be there is no olding back the tide. Knowl edge workers need these ma chines to do their jobs effectively, they recognize the need, and they insist that sic change in direction in the

of the philosophical under-nandors of that field

streamline processes, and the ability to compete.

and calls for a reexamination There are two reasons for introducing machines into second is to improve one's Over the years, the data processing field has been

information technology field

concerned with the stream proving the handling of high volume transaction-based systems, reducing the cost of maintaining large files, speeding up the production of reports and similar activi ties. Conversion of such ac-

measurable

tivities to machines produces ued on page 2)

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Connell is executive director of the Office Technology Research Group, headquar tered in Pasadena, Calif.

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SURVIVAL STRATEGY FOR SERIOUS DATA: PC/T

# Integration under MVS/XA forecast for IBM line

Superior Consider that the 3060s cannot upgraded to the 3090s.

B Plan s move toward MVS/XA if ture plans include 3090 technol-

Note that the purchase to rental s for the 3090 series are ex-

During the next 18 months, overall internal performance of the 3090 Models 200 and 400 is expected to increase by 20%.

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#### OTA to study computer security, privacy issues

WASHINGTON, D.C. — The U.S. Congress' Office of Technology As-sessment (OTA) recently announced plans to conduct a study of computer security and privacy issues The study, tentatively titled "New

Communication Technologies: Impli-cations for Privacy & Security," will delve into the following topics # Current technologies for monitoring the work of government and business employees, as well as tech-

nologies being developed that are likely to intrude on workers' privacy m The methods for mitigating the privacy threat of work monitoring through technology, legislation, ia

bor agreements or other means. # The ways in which systems can be misused or exploited by interception of data signals, unauthorized access and other means and the availability of security measures

ow and in the future.

Case studies of specific com er systems whose disruption wou be significant to the public or the

#### GAO reports find federal payment systems faulty

WASHINGTON, D.C. - Several U.S. agencies often pay contractors twice for their goods and services, in part because their automated pay-ments systems fail to stop the issuance of duplicate checks, according three investigative reports by the General Acco U.S. Congress Office (GAO).

Recent GAO studies dis sore than \$11 million worth of dupli cate payments, the largest involving a \$6.8 million payment that was mistakenly sent twice to a contractor for

the Defense Logistics Agency Errors often occur when contractors send two or more invoices to the government: usually the contractors return the overpayments, the reports said. But the GAO identified several problems with the automated payent systems, including the follow

# A U.S. Department of Justice system "did not reliably identify duplicate payments, and it required action by payment center staff to stop those it did detect."

I The system at a General Services Administration office identi fied duplicate payments but only afcomputer tape issuing checks had been made

m A Defense Logistics Agency of fice sometimes paid contractors twice, once manually and once through the automated system, because the manual payment was not

#### ICCP announces certifying exam

DES PLAINES III - The institute of Certification of Computer Professionals (ICCP) has announced the Associate Computer Professional exam, a certification program for computer professionals who have graduated with degrees in computer science or who have equivalent experience. The certification requires passing

a two-part examination. The language portion tests a person's know edge of Cobol, Fortran, Pascal, C, RPG or structured Basic. The second portion examines a person's knowl-edge of data and file organization principles and techniques of pro gramming, interaction with hard ware and software, quantitive techniques and systems analysis and interaction with people

For more information, ICCP is to-cated in Suite 268, 2200 E. Devon Ave., Des Plaines, Ili. 60018.

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# Getting spreadsheets, word processing, graphics, communications and the IBM PC to work together can be tough, too.

If you think solving the federal budget deficit poses a chal-enge, you haven't tried getting a company's personal computers more control.

, you known trained gatting a vo-variety of the first or control, you by your fined their most users require following control, and with the control comparing break. And while are pleared to have seen and nother was produced to the perform the control of the fact to control of the control o

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HORTH ROCKS, Amballary of the Uniliver Group has chains the first Autralian Homes for Glaco Systems, Inc.'s Ultra Manti Founth-generation operation agreem. John Greenlees, if formation services manage for Reconst, said the comproper open consulting the said of the company of the Ultra Mantie to Turn the Committee of the Committ

COSLING, Assets
— Kodak Asst
— Kodak
— K

ter an evaluation by a multimational task force commissioned by Kodak's Information System Management Council, a group of senior DP managers from Kodak's eight main DP installations around the

uncalante Andreis before to Australia Lad. has signed a 97.5 million contract with Burrough Corp. Industry insiders said it is the first of two such orders Ford will ink tilayear to cope with on-line real-time data been of two will become the second Australian name of Burrought's Will become the second Australian name of Burrought's Australia name of Bur

frame. The Ford of Australia contract calls for three subsystems of Memorex Corp. B9494-12 thin-film head disk assemblies.

Hone Kone — Stockbroker James Capel has placed a omputer systems order secth \$2.29 million with long Kong consulting compayy CCF Ltd., whose Fiscal ackage will be used on the sectral shared resource comsuter facility in the stockbroor's Exchange Square comlex in Hong Kong. Insection, however, Capel willserminal Ultimate Corp. Noperminal Ultimate Corp. Nomen which is considered one

her's Exchange Square complex in Hong Kong, in Landon, however, Cape will fintall the activate on a 16-to terminal Ultimate Corp. ayatem, which is considered one the world. The company in the world. The company in the first in Rong Kong to buy CCFs Paccal International software. It will use 10 lines connecting its office to the Exchange Square system to service Capel's activities in Hong Kong. Totype and Singe-

The OCF Fincal software will provide nettlement, valuation and fund management for its London, New York and Channel leleands, UE, offices. The London installation is valued at \$1.79 million and will be based on Ultimaterities with 28 bytes of main memory and 30 bytes of disk story and 30 bytes of disk story and 30 bytes of disk story.

Computers, a cokeman said.

Boyal Boog Ko
Gettery Co
(IRRIAD) is spending 48 in
line to train it is staff as p
of an office automation p
ice with Digital Equipme
Corp. The BEEC is curre
to it also with over role
to it also with over role
and to the control of the
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t

Home Home Home the Home Smaller hotels: the Hyatt Begene chain, including one on the Pacific Ocean island of Span, plan to install a fina cial management system of veloped in Hong Kong. Bys hotels in Indonestic the Pippines; Dubai, U.A.E.; Pippin

launched in March by Hong Kong-based software house RCP Consulting Ltd. The package is a microcomputer version of RCP's Hotel Accounting System for mini-

HONG KONG - HONG I trials f an integrated se vices distal network, can

are scheduled for later thi year by the Hong Kong Tole phone Co. The territory's & telephone exchanges will a

other than the control of the contro

Computer Corp. portable computer. When Cuborns ended operations in the U.S., Nor Bale and of the machines at low prices. The new "Norwegian" Onborns 20 XT is not ally a U.S.-made Tandon Corp. computer, selling for about half the price of an about half the price of an annual control of the c

puter division in the U.S.
market are being bissaed for
Bircson Information Systems, Inc. 1 (883) recent. In
nancial woss. ESS investeheavily to penetrate the U.S.
markets but had very poor er
sults, sources said.
Estimated sales for thi
year were reduced from
15,000 units to 6,000, and
EIS has been forced to cut th
micro's price by 15% to 20%.

r year were reduced from
15,000 units to 6,000, an
EIS has been forced to cut it
micro's price by 15% to 30?
Ericason recently reorge
nized its Information 8yr
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and may relocate its manual
facturing unit.



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able for DOS/VSE and MVS, VS1, etc. For more Information, confact



## Support loss forces replacement

COLUMBUS, Ohio - It was a nightmare that every computer user dreads: A ven dor halts support of a critical system, and the application is sufficiently esoteric that an alternative is not readily at hand Not a moment can be

For the Chemical Ab-

structs Service.(CAS), a divi-sion of the American Chemi-Society based in this Midwest capital, the system involved consisted of Conographic 9 terminals from Hughes Aircraft Co., used in publishing the CAS 77-yearlost, and the ensuing scramold weekly journal, Chemical ble involves not a little hit of Abstracts "The vendor had with

drawn support of the prod-

trouble finding replacement parts," said Hans Drever, system engineer at CAS · Chemical Abstracts con-tains summaries of chemis

try articles, professional papers, chemical patents and The abstracts act as research sources for chemista

dents and professors and often are accompanied by drawings of complex chemi-cal structures and chemical CAS requires graphics terinals like the Conographic 9 system because complex chemical structures and chemical structures and equations must be displayed on a screen exactly as they

will appear in print in Chem ical Abstracts, Dreyer main 'If a mathematical symbol is to be printed twice as large as another, the two symbols

must appear in proportion on the display screen," he said. The terminals are connected to two Digital Equipment Corp. PDP-11/24 series miniestern that are connect

ed to an IBM 370 mainframe that controls data entry and phototypesetting operations

Hughes withdrew from the terminal market support. and CAS found Itself with vendor support. Dreyer's group was responsible for scurrying to find a replace ment. "We evaluated termi-

nals from a number of manu-facturers," he said. CAS chose four Vistagrahic 1000 display terminals rom Calcomp, an Ansheim firm With this system, whenever an image was altered by the operator, the

screen instantly CAS needed this canability in publishing Chemical because

amounts of information wer constantly altered The new terminals provid-

ed other benefits as The old terminals had to be reinitialized from time to time to clear the screens because storage tube technol ogy sometimes leaves traces previous images on the Drever terminals explained. This procedure was not necessary with the new

Magazine was not the only use that CAS made of the abstracts. They are also available from an on-line data base, a cumu lative index for Chemical Ab stracts that CAS publishes

every five years The index is so large that it has earned a place in The Guinness Book of World Re cords. The 1983 edition, for contained than 130,000 pages and 25

## Looking for a workstation tool with the power of RAMIS' II and the friendliness of a PC?



Martin Marietta Data Systems intro UNISON? the first workstation tool to combine the ease of use of a PC with the mainframe power of RAMS II - the most comprehensive, widely-used 4GL product ever created

UNISON is not just downgraded main frame software. It was designed specifically for the PC environment. With such easyuse features as windowing, rhenu assis tance and full HELP facilities. It lets you use popular software like (TSoftware," Multimate" and Lotus 1-2-3" And helps these different products work better together.

Even more important, UNISON lets you go back and forth between PC and main frame. Not only can you access mainframe UNISON, you can share processing tasks between micro and mainframe UNISON is another of Martin Marietta's

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370 computer companies have discovered the secret to building some of the world's most advanced printers.



# Distributed processing system remedies hospital's ills

CHICAGO — Despite an ailing DP budget, a major hospital here implemented an information center and distributed processing technology with the hopes of nursing its report delivery system back to health.

When the manual system for the control of t

wysten het in beath. "When the manual system the New York and the State of the Stat

ened to limit the network's effectiveness. "We wanted to produce software tools that would emulate micro tools," McNi-chols said. Even with termi-nals in several work areas there was little printer sup-

"We were trying to foster the use of productivity tools for office automation within the department," McNichols

The hospital used IBM: a DFP and GML for text pro-cessing and SAS Institute, Inc. is 3AS/Graph for presen-tation graphics and reporting. According to McNichola, this range of products creat-old by the product creation of the product creation graphies. The products are producted in the product creation of the produ

(RSCS), the ponent of VM.

RSCS was a headache to the DP staff, McNichols said, because central systems operators had to leave the common to go reset the merous times per

day.

The hospital wanted to be able to share work loads between printers and send reports to a list of printers. RSCS could not help us accomplish these goals," he

Michael Reese Hospital now uses the ACK-PM Print-er Manager from Autovative Computer Extensions, Inc. in Downers Grove, Ill., to sup-port a network of printers Included are Ascii printers

Included are Ascii printers connected to asynchronous communications lines.

Among the early users of the ACX-PM network were the Medical Center's clinical

ing or for developing depart-mental systems, McNichols said. ACX-PM allows users to connect to the host and con-trol printer output.

A recently developed sys-tem that supports the Devel-

## Stiff competition presses winery into use of graphics

System aids planning effort

SAN FRANCISCO — Wi prohibition confronted Northern California we company with the a grapes of public opinion, company made grape ju Today, that winery is add ng again to outside influnces, this time with computr graphics.

ritain owise too rines of California, inc., ountry's fourth-lary rine maker, has been i ucing wine since the z 800s. The company rep nnual sales of seven mit asee of wine in the U.S. of foreign countries, from product line of dry table wines, dessert and fortified wines, sparkling wines, brandy and vermouth.

During the past three years, the firm and its products have faced an unusually competitive business climate. Foreign wines, which costess to produce than domestiones and sell for less despit import tarriffs, are hurting

U.S. producers' sales, according to Bill Hardwick, a business analyst for Italian Swiss Colony. In addition, he said, the wine industry has been relatively stagnant for the past two years, so domestic companies are betting each other to increase their mar-lost sheers.

ket shares.

Italian Swiss Colony has responded to business pres-

planting Beassres, some of which rely on effective us of computer graphics. The firm employs an BBM Person al Computer, Lotan Development Corp.'s 1-2-3 softwan and Bervister-Packard Co.' HP 7470 two-pen graphic plotter to produce charts and graphs that managers use to help them with business de

Bully order report

martwice sucr tee graphca application on which the irm's managers rely most eavily is a daily order reort that he produces for hem. Graphs included with he report show how many asses Italian Swiss Colony's intributors ordered the prejous day and compare these numbers with the company's also forceasts.

sales forecasts.

"These updates are necessary for quick assessments a our position and ffor idec sions made between ... but nees meetings," Hardwit said. He produces the report by entering order attainties to the Personal Compute filling in a Lotus workshee converting the Information to a chart formst, reviewir the chart on his screen as

the plotter.

Hardwick's finished reports have numerical data on one side and charts on the other. Many managers prefer the graphics side, he said, be-

tion at a glance.

Because they are easy tunderstand, the charts he italian Swins Colony's ma agers make accurate busine decisions. "The bar and decisions." The bar and it graphs generated by the ploter are much less confusir than columns of numbers. Hardwick explained. "The graphs decrease the possible graphs decrease the possible possible and the possible pos

formation and, in doing a prevent potential mistakes decisions."

The wine maker also us graphics in its monthly but ness mentings. Hardwick process graphs that show yes

non meetings. Hardwick p duces graphs that show ye to-date business figur forecasts for the future a different brands' recent as against previous years' sal He has each graph made is a transparency that he us to explain business results. Before Italian Status Co

ny purchased its graphic plotter in October 1983, per sentations at business meetings consisted of hard-copoutput of raw data. "In method wasn't satisfactory, Hardwick: said. "Trying texplain the numbers as the

The graphics presentions help managers' through business meetis

## With the Hewlett-Packard Laser-Jet Printer.

Page 2 1905-86 Harberbay Report

indicates a lover errord risk than incl originally been projected

Place to Make Personal placement of property and All regime are neededing to this provide appendity the Sections Regime, which is require a provide in marker possession for provide than the believe yearings. In this last these parts that benefities Regime has become at a restricted that of the source provide is the provide of

Gen 3 report totals byth at overal report prices with themy of the state of the sta

This would indicate that the increased offers directed or the dealers in the South has proved control. No other elements were altered.

Impact on Profeshility

After exposure for the new desire progress, profits here increased 20% to the Stations Singles, in the other regions, profits have hold quarty. This indicates that the SOS for desires alternated

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# Disk drive eases computer game firm's system overload

ent in the inserviable position of viving to turn away prospective viving to turn away prospective viving to turn away prospective control of the handler the lin-house boat, not of not handler the lin-house boat, not of the line was a resolved through the firm's adding a new footness, and the control of the line was a second to the line was a s

Leaking sectional beatiness.

With 10 employees now up on its in-house system, the company found in-house system, the company found contained of the contained flags and works and in order to find the system's week in contained to the contained flags and the contained the flast drive.

After surveying the marketplace, There surveying the marketplace, Last disk drive with an access time of the contained for the contained to the c

verter.

At the same time, Cheshire added
a Cipher Data Products, Inc. P880
at Cipher Data Products, Inc. P880
irraming tape that operates at 100
in/sec. in 1,000 bit/in. mode and 50
in/sec. in 1,000 bit/in. mode and 60
in/sec. in 1,000 bit/in.

Torichire in 1,000 bit/in.

Cheshire vice-president and principal hardware engineer.

"This enables us to bid lower on mew business proposals, charge clients less than our competitors and still increase our own profit margin."

Productivity is also up at Cheshire. "Before we acquired the new drive, the system would completely clog up during any payroll or financial work. What we call our real work

— programming — so well as editing and word processing, would come to a half. "Work and a half." with case in a half." with case in a half." with case in a half. "so well as the second in the second

# Guess who just unveiled seven

The new IBM 3161 ASCII play Station is really seven ferent ASCII displays in one. In addition to its own func-arich native mode, the new M 3161 can emulate:

- control to its own func-tion rich native mode, the new IBM 304 Model 881 - ADDS Viewpoint\* - Handkine 1500\* - Lear Siegler ADM-3\* - Lear Siegler ADM-5\* - Balefoles 190\* Bouldes fitting nicely into raining systems, the IBM 36d the offers impressive improve-tents in ergonomics.

sproved Ergonomics . Improved Productivity ir Improved Productivity
This the 102-key ASCIIle inyboard, for example,
low profile, gentle contour
it ypowriter touch males for
the laying with fower error
is inyboard has programble function and editing
a so it can be custom-

ed to meet your appl tion needs.

Then, for comfortable viswing, there's the tilt and nerived of the 12' displays. An the sharp, clear 8 x 16 charter matrix for easy reading.

The control of the tilt and the tilt and the sharp, clear 8 x 16 charter matrix for easy reading.

The IBM 3163 with Ping-in Cartridge And, as if that weren't uch, we're also announcond new ASCII display ion with even higher fur the IBM 3163.

m—the IBM 3463.

Outwordly, these two new policys look alilie. But the 63, in addition to its built-in substice of the IBM 3401 cele 881, also offers the abil-to smallers the DECVT \$2

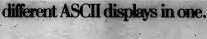
The price per terminal is 695 for the 3161 and \$1,095 or the 3163. Quantity

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### Automated bookkeeping system aids customer services

#### Firm's on-line system tailors client reports

ent required a report on ne direulation. DSI added circ ta to its existing data base

te age report derived from thes ts shows how the client's lis sares to DSI's file and to the na il population in terms of age dis-tion, Mossky said. An inde-ser for each age hardest tells in

### We dropped the price of our modems.

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moderns, our 9600 fast poll train in 71/2 ms. That's the fastest in the world. And goes for \$2,195.

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objectives Mergs never and old brokeningses such as the part of th

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that fit their products,

# solutions instead of my needs."

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you're going.

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Built on the perinciple of run-to-lookeecence, the DATAF450NE\* II System is a full line of high-performance modern, multiplicater, data one-vice units, and disprovide control device. These contributed that resumination and explanations in the contribute data resumination and explanations. These contributed with resumination and explanations in the contributed of th

2. Will these products deliver the capabiliti I need today? Am I getting my money's wor in terms of price and performance?

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nas as the HMATA, and he built in colog graphics capabilities and an easy to expand design.

Thing advantage of the UNIX Eventual was assumed as the color of the UNIX Eventual multi-tasking, multi-task fastures, you start with The Computer With The Future the ADRI UNIX Eventual multi-tasking, multi-task fastures, you start with The Computer With The Future the ADRI UNIX Eventual multi-task fastures, you start with The Computer With The Future of power, ease of use and communications capabilities.

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Our UNIX System V-based 3B Computers— five new or enhanced supermicro and minicom-puters—provide distributed and departmental

computing at a competitive cost per use We also offer full-featured, reliable pe We also offer full-featured, reliable per querals—synchronous and asynchronous termin printers and plotters. Compatible with ATET Computers and other vendors'





nent, system design, replementation, and raining. A 24-hour tech-ical hotline is available or hardware and softe support.

d. What about tomor-row? Will these produces my growth path pen to accommodate ature needs, especially n terms of networking

As technology advances, ATET will enhance and support its products, increase perform-ance, and maintain compatibility with industry

ndards. Our commitment to an open architecture and support of industry standards—MS-DOS, UNIX System V and SNA/3270 and BSC/3270 protocols—gives you the flexibility to satisfy your applications needs.

The power of the ATAT 3B Computer family

can be networked in a variety of ways. Becan they run UNIX System V, the 3B Computers offer an opportunity to build an open system with hardware independence and software por

What's more, our UNIX System V software base is growing by volumes.

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# See what makes AGAT compares products a sound investment.



offers full hardware. floating point performance, streaming tape backup and up to 4 MB main memory. Supporting up to 25 us the 8B2/400 offers plenty of room for expansion.

ance, ase what our 3815 minicomputer can do.
The 3815 is equipped with a high-performance
WE<sup>20</sup> 32100 microprocessor with main memory up to
16 MB. It supports up to 60 users in a number of configurations. Other features include demand-paging memory management, file and record locking, and standard

For those looking for the next step forward in personal computers, the ADAT UNIX PC offers a migue combinetion of computer combilities.

ombination of computer capabilities.
You'll have the power of
UNIX System V to support multiple tasks and
multi-users. The 512 RAI
is expandable
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aiso a 20 MB hary disk: This outstanding busines tool also featur a built-in mo dem and

feature to easil

Arrest Control

Berg to the control of the control o

Our connectivity products cont — to md. try standards — — T — depart-

mental as well desktop workstations can access mainframe applications For example, + softwar provides fully on forused SNA | 16 W controller

Emulator + notware en lates the HE 8774 cluster of

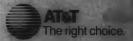
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### Net fans air-conditioning supplier's delivery effort

FORT WORTH, Tenas — A manufacturer here that ence considered a three-day turnsiremed on deliveries an ecomplary feet new consistently gets goods to customers two days after receiving an order — and often

ter receiving an order — and often turns an order around in one day. The time-saving was the result of a new on-line, antalite-based communications network, according to J. D. lintitit, DF messager for Atoo Bubbes. Co., a supplier of industrial air-conditioning duck products to some 4.000

According to Ratliff, delivery time is critical to the firm's success. "In our business," he said, "the prempt delivery of a customer's order is as important as price and product small.

ty."

Before Ance Embler brought in the stability-based metwork, the firm had retied on this Jay Wats lines to transfer shipping and inventory data between terminals in its eight manufacturing plants and the corporate mainframe, a 1904 cbyte Honeywell, inc. Lavel 62. An operator of Port Worth corporate basedquarters called each plant once a day to gather order and dallywer information that would

bases.
The dial-up batch operation allowed only one plant to transmit data at any one time, and plant managers could only send data once each day. "Batch precusing allows you to get your data from point A to point B," Ratiff and, "but it's very alow."

Co-line communications capability

started slocking for a system that weald provide on-line communications capability. In January 1994 the firm nequired a 1M-byte Burroughs Corp. 1955 mainframe with Polificlect protected and linked the machine to terminals at the plants over SCA Crolix Communications Network.

Since then, Atce Rebber in opened four new plants. Each of it is locations now has an ETI100 to missel and on AP200 printer, bot from Burroughe, with which to a

retrieve information about bills o lading, product inventory levels, production a chedules and shipping transactions. Because all of Ato Bubber's data resides on the heat, the satellite network plays a role in all most every phase of the company operations.

to the Port Worth manufacturing facility, a clerk enters order data into an ETI100 terminal connected to the host. A proprietary software package automatically prices the order and creates a bill of linding, which is automatically transmitted over the network to the appropriate annualizenetwork to the appropriate annualize-

At the plant, a manager recolved the bill of leding in on AF900 and beplan filling the order, either by uning treasurery or by initiating a manufacturing cycle to produce the memoryproducts. After each order in filling, the manager transmit is completed bill of leding back to the heat, which produces as involve for distribution

Most customers receive their skip-

after they place their orders, and Ratilif said the turnerund helps cash flow. The finder we can get the invoice into their hands," he un plained, "the faster we'll be paid." The on-line network also allows

plant managers to update corporate data bases and make inspirite at all times, rather than once a day, and Retailf each the supplifity less allowed Airo Bubber to improve its delivery and investory trackings.

Alto memor to suprove its docand inventory drackings.

Ith a diel-say Wats line, we were
to behind in upflating our shipand inventory levels," he said.

It the on-link network, we can a shipments at any time during a cy or night and heve an instant.

d where," Ratiff added,
in its turn, the improved tracking
a systems help the firm schedule its
menufacturing capacity more offciently, according to Ratiff. "The
bottom line is that having fast and

oney access to imperient operation data makes use more efficient as profitable," he said.

The snallite network itself is coefficient compared with the other otion Atoo Rubber considered for o

The magnitud network tracel is confriend companied with the other option face Tables questioned for ontion accommunications. Build'if said had when the firm was leasting to international trace of the control of NATA and ECA, exist on receiver. Its managem figured that, in order to into the original edgic plants, they would have to spend about \$9,000/

mo for ATAT live charges, compared with \$6,000/mo for RCA Cyclix. Included in the RCA Cyclix settmate wave charges for network maagement services, a function Ato-Rabber would have had to provide on to own under ATAT. "That's where the payoff was fer me — not having to service the set of means.

running smoothly." Ratiff said.

Back of Atoo Insider's 12 plant
Correctly transmits about two million char, /mo over the network.

Broos plants have tied in Burroughe
Br3000 personal computers, which
complexes use for weed personals,
aproaches; makyate and turninal
complexes.

MULTIMATE TECHNICAL REPORT

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### **Automation helps manufacturer track production**

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Regardless of hardware, the fea-ture that makes the system opera-ble is the DCSI soft-

rode wands, each attached to an rose \$630 electronic bar code er. Employees pass the wands bar code templates to enter data

mails.

8 Two interme 9161 port concentration that are hard wheel to the most readers and connected to a miro. Each concentrator has 64K bytes
random-coses seemery to buffer annactions when the micro is unvalidable. One concentrator supports to wand readers, the other supports to wand readers, the other supports.

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K KOMSTAR I imaging system

### Dairy condenses accounting time with ledger package

### Off-the-shelf system

keeps execs up to date

LIVONIA, Mich. — Accountants for a dairy products distributor here moved up their periodic financial

general ledger package.

Melody Farms Distributing Co, which delivers dairy products throughout Michigan, maintains a 13-period fiscal year and most close its books every four weeks. Until 1081, accountants armed with calculators managed to finish the work

ried closed.

With the new general ledger sof ware, from Executive Technolog Data Systems, Inc., they finish the job within one week to ten days.

job within one week to ten days.

The quick closings allow Meloty
Parma executives to best their management decisions and marketing
plant on more up-to-date information
than they did previously, according
to Phillip Sattler and his
firm originally planned to write its
own general ledger software rather
than purchase an off-to-shell systhan purchase an off-to-shell sys-

than four months of developme work on three packages — order or try, route accounting and account receivable.

receivable.
After the system was up and rusing on on ISM System/24 at Moles Parms, the consulting firm spent a additional eight months firing but and making improvements on Sattler recalled. "If you can find not ware that can be modified to your needs, it is certainly the cheap your needs, it is certainly the

er way to go."

But, Sattler added, "The problem
was that a software package for Melody Parms had to meet several critical criteria." The firm decided that if

would have to have the following qualities:

If the flexible enough to allow the controller and accounting department to structure general ledger ac

count numbers in their own way, B Allow the accounting department to work independent of the date processing department.

clean and consistent. Melosty Farms needed flexible software to enable its controller and his staff to number their account, as they chose, rather then as a soft ware system dictated, Sattler ead The first ross several substitution including a production plant and in few financial companies, all with different types of accounts and finant ferrest types of accounts and finant

Melody Parms' accountants had to he able to group the different accounts into east centers as they saw fit. "With (the) parent company and subsidiaries requiring different financial extensions, flexibility was a

Independence for the accountar was necessary, Sattler said, became the did not want them taking up in time with tasks that they could do their own under a well-structur

software system.

Consistent source code, with logic loody Parsas' programmers could aderstand, was a criterion, he said, accuses, "I don't went to be at the emdor's mercy." Sattler said he ranted to be able to modify the soft-

are on his own as the business sods changed.

In 1981, Meledy Parms purchase to general ledger package from Excutive Technology Data System and met the thomaster.

as proven to he resume enough is run the parset company's and its subsidiaries' accounts and to accoumodate acquisitions the firm he made since the software was pur classed, he said. Last year, lefelod-Parms purchased a subserie ware house and brought its accounts on the general ledge system.

as activater's source code, we have in RFG-II, was easy to modify meet Melody Farms' need for 13-pe of financial reporting, according Sattler. He said that the package we set up for monthly reporting but the changed it in one day to ham Melody Parnes' reporting structure Sattler also added mesons to toolware so that the firm's according to the contrast could set up reports they not cannot could set up reports they not

tanta could set up reports they nee ed more easily. The accounting d partment now does almost all of it work without help from MIS.

hearn't had to get involved in formating financial statements or estimated in distata," he said. "The accounting department sets up the statements amakes journal entries. All we do insales sure that everything is proper to the said of the said of

IBM System/34, one of two System 34s the firm operates. Melody Para recently purchased on IBM System 36, but Sattler said he saw no need transfer the general ledger to the new machine.

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### SOFTWARE & SERVICES

# M&D micro-mainframe link eases insurer's reporting woes

by Mance Medicancy

FAIRFIELD, Cons. — While micro
computer users in the financial and mar
agement reporting groups of the Orio
Group were finding their micros valuable
for analysis, the commany's information

Group were finding their micros valuable for analysis, the company's information center manager concluded that too much time was being spent incepting data from the mainframe into spreadsheets.

"They spent too much time on thing that analysis just don't do," according to

State. He decided the firm needed to it plement a micro-mainframe link, but had to sell the idea to the management the national property and casualty inco ance company.

Beneziching potential micro-m frame products was Stein's first and ment. He began looking for micro-m analysts to extract and transfer data sub sets from the corporate financial data base to Letus Development Corp.'s 1.4-4 running on IBM Personal Computer XTs

The company's choice was limited by its use of a data hase and application systems developed in-house, Stein said.

The data base held more than I billion records, and users meeded to pull down subsets of data.— not entire files. Ac-

only the universal products were suitable.

Although fourth-generation languages could give users asphisticated query and transfer canabilities. "they look was into

must give users soparances agery as suspier capabilities, "they lock you int endor! data bases, "Stein said. "On to "that you spend \$150,000 for the pack Commund on page 7

### Will IBM take AI by storm?

A retificial intelligence and the information center concept provide an interesting contrast in style — IBM's style, that is.

Both Al and information centers

Both AI and information centers have been in the news recently in the wake of the international Joint Condenses on Artificial Intelligence (IJCA and the Information Center Confere A Providence Conference Confe

small compared with wider market shows like the National Computer C ference or Comdez, served to highlis the Intense Interest in their respects topics of concentration.

All and information centers are he for one very simple reason. Each hole the promise of addressing problems that treditional technologies or approaches have fisited to solve. For the reason, both conferences drew awar intervented attentions and fostered an atmosphere of intense, constructive consion. There were many topics to the debated and a great deal of information and newly won experience to be share

and navity won experience to be share
With good reason, professionals in ea
area — whose job titles are still takes
shape — see themselves as picosers.
But IBM's role in the fields of artit
cial intelligence and information centers is a study in opposites. When it
comes to information conters, IBM is

womening esse altrigation:
Wearing the weathered hat of the
pioneer, IBM — actually, IBM's Canaan counterpart — unveiled the conce
of the information center. The information center was designed to meet two

setion center was geared



Martin Mariet ta enhanced Remis II English/6

Informatics impressed Cullet's IDMS data use / 60

Instale
Application
Peckages/00
DBMS/00
Implinges/00
Implinges/00

### Users like PC Link, not price

BOSTON — Users of McCormack & Dodge Corp.'s Interactive PC Link micromainframe link package interviewed at the World '85 users conference held here recently raved about the product's canabilities, but

they wished it cost less.

MAD released PC Link in
MAD released PC Link in
MAD released PC Link in
Movember 1968. The company
modifies a Digital Consulting
Associates, line. Irans board to
support MAD applications and
cells it with documentation for
\$2,200. The mainframe side of
PC Link, for IBM ISS data
bases in CICS environments.

\$2,300. The mainframe side of PC Link, for IBM IBS data bases in CICE environments, is priced at \$25,000. For those customers who already have Irms boards installed on their IBM Personal Computers, the ware and documentation is

81,195.

reiopment, the company said. So 00 FC Link packages have be shipped to 200 clients, accoing to Scott Conrad, who ma late the product for MAD. PC Link was Larry Sch.

ing to Scott Conrad, who as hats the product for MAD.

FC Link user Larry Rrb project manager in the a home area for Forest Oil Co of Desver, said the 'prod has worked very well in company. However, he as 'they are priced higher than resistate." Because mic mainframe technology

company. However, he sain "they are priced higher than realistic." Because micro mainframe technology changing rapidly and no standards are emerging, "it's a most life (the PC Link micro software) should be a throw

data base management sys Continued on page 7

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### SOFTSCOPE

Notes from the software industry front

The Hartford Insurance Group and Wang Laboratories, Inc. have agreed to develop and market inte-grated computer products and ser-vices aimed at enhancing DP productivity in large organizations The Hartford has formed a subsid-lary, Hartford Integrated Technol-ogies, Inc. to develop the products.

Teknowledge, Inc. and Digital Equipment Corp. have announced an agreement that allows DEC to market, sell and distribute Teknowmarret, sea and antitioute texnow-ledge's S.1 knowledge development software for the VAX processor family. Texnowledge's recent an-nouncement of S.1 Version 2 is said to integrate further knowledge-sys-tem technology into VAX and Mi-

Apollo Computer, Inc. has an-nousced five software supplier agreements for artificial intelligence-related products on its Dogener-reased products on its Do-main workstations. Agreements were reached with the following: Quistras Companer Systems, Inc., which markets Quintus Prolog. Lo-gicware, Inc., marketing Mprolog. Production Systems Technologies, Inc. marketing the OPSSI expert averages languages Software. Assistant

keting the Knowledge Engineering System expert system development tool; and CCA Uniworks, Inc., mar-

intional data hase system

keting CCA Emacs, an intelligent real-time display editor. Signal Technology, Inc. has an-nounced that its Smartstar fourth-generation application development and data management system for Signal Tech VAX processors will be co-sold as part of DEC's Digital Classified Software program. Smartstar is said to be the only independently devel oped information management sys-tem that interfaces with DEC's Re-

Data General Corp. has an-nounced that intersystems Corp.'s "M," a systems software package combining the Ansi-standard Mumps programming language with utilities and data base software, will be available through DG's Inde-

pendent Software Vendor program. has announced the development of a Group Sales data base system to be designed and implemented by Multi Soft, Inc., the applications development and marketing subsidwrenceville, N.J

### Inference enhances ART development environment

Improves graphics. adds interfaces

Inference Corp., based in Los An geles, has announced enhancements to its Automated Reasoning Tool (ART), a large-scale expert systdevelopment environment for end un-srs and developers using artificial in-telligence workstations from Symbo-lics, Inc., Lisp Machines, Inc. or Texas Instruments, Inc.
Added capabilities include im-

proved color graphics, a graphics icon library, direct interactive and programmer interfaces to the know odge data base, support for mixed ini-tiative processing, a pseudo-natural-language syntax and separately compilable rule files.

The ART rule-based expert syste framework is said to support int grated forward and backward chai ing in order to optimize search sta

The ART knowledge representa-tion language allows developers to manage complexity through knowl-edge abstraction based on hierarchi-cally structured facet, relationships

The enhanced product's View-points feature provides a way to evaluate multiple alternatives, rath-er than assigning artificial probabili-

er than assigning artificial processis-ties to decision points.

The Artist graphics environment is said to simplify the addition of im-ages in an application by providing a set of drawing primitives controlled by rules in the knowledge base. The Artist features have been extended with color graphics and an icon li brary of predefined symbols.

Art Studio development envi-ronment has been enhanced to pro-vide added ways to view a knowledge-base. An advanced browning facility shows graphical views of hierarchi-cal relationships.

A pesudo-satural-language syntax option reportedly simplifies the use of ART by allowing the developer to build a knowledge base readable in English-like envirux.

nglish-like syntax.
The mixed initiative proc

i ne mixed initiative processir lows an expert system develop ART to prompt uses for informs while reacting to user inquiries. The ART system is prices 885,000. system is priced at

Will IBM take Al by storm?

to help data processing reduce the massive applications backlog by giv-ing users the resources and the ex-pertise needed to build some systems on their own.

It was also intended to provide a focal-point for management of the growing population of microcomputers of today, ers within large companies. Information center personnel would tackle is
operating environment. Other impor-

sues of personal computer hardware and software selection, installation and support and training of end us Thus they would allow DP pros to

address more complex, technical IBM not only gave birth to the in-

formation center idea — it also has provided a variety of products that are mainstays in the information cen-

tant products include the Structured Query Language, the Profusional Of-fice Systems and DB2, IBM's relationtry which, despite initial criticisms from analysts, has received good

But Al is the proverbial horse of a diffurent color — and, until recently, that color has not been blue. According to Al afficienados, who, like descendants of the Pilgrims, take

like descendants of the Pitgrins, taxe great pride in tracing their roots back to the beginning, artificial intelli-gence was a dirty word to IBM. As they tell the story, Big Blue did not even acknowledge the field of AI until it became evident that custom-

not even acknowledge the field of Al until it became evident that custom-ers were aware of Al developments and were willing to put out the cash — to vendors other than IBM — to experiment with Al and even implement some first-generation applica

Even now that IBM has entered the commercial Al market, the criticism continues Sure, worried vendors say that

IBM has validated or endorsed artificial intelligence with the amountaintion of systems like the Expert Systems and VM tem Environment/VM and VM Programming in Logic [CW, Aug. 19]. But others in the field say that IBM's products are clearly less than state of the art and are designed only to keep users from straying to the same vendors clamoring about vali-

Some in the Al field are me dire predictions about how IBM's en try will impact the pioneers, the ven-dors who were willing to take on the tasks deemed too insignificant by the

tasks deemed too insignificant by the big guys until now.

The restructuring of the Al market that is sure to happen may be pain-ful, but it will certainly be interesting to observe. It's an unav

to observe. It's an unavoidable phase in Al's maturity, after all.

What's more, the negative assessment of IBM's performance in the Al field may be too harsh. It's true that IBM ham's offered many commercial Al tools, but it has exhibited some

Al tools, but it has exhibited some fairly impressive Al research efforts. In all fairness, no one can expect IBM to be all things to all people. But it is interesting to note IBM's approach to two of the most impor-tant areas of information processing

Only the future will tell whether IBM will take on the mantle of inno-vator in the field of Al or whether fears of a repeat of its shuddering im-pact on the personal computer mar-ket will be realized.



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INFODATA'

### Capacity planning modules out for Synova

rossowing up its June announce-ment of the Symova series, which is aimed at helping users integrate Uc-cel Corp. systems products with com-mon logon, communications and com-mand facilities, New York-based Used less week. Uccel last week announced two ca-pacity planning modules for the se-

The company announced Nova: Probe Resource Profiling Facility and Nova: Plan Capacity Modeling Facili-

The packages enable IBM main-frame users with MVS to model the impact of work-load changes on per formance prior to allocating rerces, a spokesman said. The capacity planning model is based on data from standard data center monitors.

Capacity planners use the model to assess the effect of such measures as adding new batch or on-line work loads, expanding use of existing ap

ons or increasing storage or Nova: Probe is priced at \$12,500. ad Nova: Plan is priced at \$20,000.

Together, the packages are priced at \$26,000. Both are available immediat Uccel's Systems Software Confer-

ence in Dallas Most Uccel software is integrated

at the product level, with each pack-age having limited predefined inter-

The Synova series reportedly al lows for full integration using a lay-ered architecture, through which all commands and requests for data are

Other products in the series are Nova-Log, scheduled for September availability, and Nova-Save, which provides for the automatic backup of

data stored on an IBM Personal Comer hard disk. The products are said to be the re

sult of a two-year research and development effort.

### Enhanced Ramis II announced

Martin Marietta Data Systems of Princeton, N.J., has announced an en-hanced Ramis II English release that

pany's Ramis II Eng ce capabilities to the R

man said.
Release 2 of Ramis II Rogishi hicludes added shility to display infomation in graphics form using coversational Regish. Information can
be displayed in either low-resolution
graphics or high-resolution graphics
on terminals From 1884, Teltronix,
inc. and Hewfeet-Packard Co.
Graphics available for display inCarpation switzshie for display incharts, line graphs and point graphcharts, line graphs and point graph-

#### in and time rel

The enhanced release is also said to improve date and time references. Information can be displayed and printed using conversational reprinted using conversational reative time and a variety of date nat-

Users do not need to match d in their request with the way dates are formatted in a data base. The product's vocabulary has

en extended with an additiona 1,000 root words, bringing the total vocabulary to more than 5,000 root The price for Release 2 of Re \$13,500

English ranges from \$13, \$27,000, depending on CPU. Martin Marietta also an that its Maxicale II on-line electronic spreadsheet for IBM mainframes in spreadsheet for IBM mainframes in the CICS environment now supports IBM's newly announced 3179 Model G color graphics terminal.

Maxicalc II is priced at \$9,000 for DOS and \$12,000 for OS operating

### Henco Software tool gets DG port

Henco Software, Inc., which is based in Waltham, Mass., has an nounced that its Info data manage ment system and applications development tool has been ported to the Data General Corp. Eclipse/MV, Dasher/One and Data General/One series processors

Info operates in conjunction with DG's Comprehensive Electronic Of-

Henco was selected as the first member of DG's Authorized Software Vendor progam in February. info on the DG systems ran price from \$14,300 to \$30,000 for the Eclipse/MV family. The system costs \$1,200 for the DG/One and Dasher/

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#### SOFTWARE A SERVICES

#### TRAINING

#### s GMD Systems International, Inc. has announced an end-user training program for users of IBM's Mapics I or Mapics II business control ays-

The program, dubbed Mapics Unsupervised System Education source (User), is a series of multime-dia instructional packages intended to improve user skills necessary for using the display stations for data The program trains users to obtain various reports and inquiries produced by the Mapics system. The first User modules covering

product data management, inventory management, costing and production control and costing are available now. Each Mapics User module is priced at \$1,295 GMD Systems International Suite

420, 8601 Dunwoody Place, Atlanta,

8 Control Data Corp. has an-nounced the Ada Programming Sc-ries, a 90-hour Plate computertraining curriculum for training programmers in the higher order Ada language. The Ada Proaming Series runs on CDC's Plaal Training Station and on other IBM Personal Computer.com natible systems.

The series inch Ada Programming: Fundamentals, Ada Programming: Advanced Features and Ada Programming: Soft ed on name 74

Users like PC

### Link, not price

tem (DBMS) shop, the firm evaluated Software AG'a Natural Connection micro-mainframe link late last year Erb said. He added the feeling was the Software AG link was not ready, so his firm went to M&D's PC Link Forest Oil now has five PC Link

packages installed for budgeting applications. The micros link IBM Per sonal Computers to an IBM 4341 Group 2 mainframe running MVS. Inof downloading production data into spreadsheets, the company downloads data to an Ashton-Tate Dhase III DBMS on the Personal Comnotes. Peh said Heave in covered division centers with Personal Comput-

ers with PC Link prepare budgets and send them to corporate head quarters, where they are merged into a single budget. Erb said. M&D's Conrad indicated that PC Link's price may be cut. "If anything

it will go down. I don't see the price on the micro side going up," he said. He said price was not an issue on the User Bruce Pergament, vice-presi

dent of administration for Pergament Home Centers, a retail chain of 40 es based in Melville, N.Y., said the PC Link price may be justified by product's development costs "It's not easy to say the product is too expensive." he said.

Pergament said his firm, which is privately held with revenue of more than \$100 million annually, decided to buy PC Link when it bought MAD's

general ledger accounting package nine months ago

"We felt it was a necessary ad-junct to the [general ledger]. We felt any [general ledger] we bought today needed a link. We feel we can do all our budgeting with two or three peoon IBM Personal Computers with PC Link connected to the com pany's IBM 4381 mainframe, he said. ding to 1.2.3 attenuation

PC Link's ability to download data to a Lotus Development Corp. 1-2-3 spreadsheet also attracted Perga-ment to the package. "Instead of forcing you to go into some type of ro package you don't want, made a commitment to go to Lotus which has become the industry stan-dard. Many 1-2-3 users don't want to take the time to learn another package. They don't need anything else, he said.

Pergament has three PC Links installed now and has plans for more. he budgeting application is being worked out. The most time-er ing task is defining mainframe pro-duction data into fields, files and lengths appropriate for use on the Personal Computers. "If you try to download too much data, you send your [Personal Computer] into a coma," Pergament commented.

Training users on PC Link. cially users unfamiliar with M&D's Millennium on-line applications development aystem, also takes time Users have to make an effort to learn the intricacies of this package, Pergament said. An Albuquerque, N.M., bank plans to use PC Link to connect executives on a local-area network to production data, said Jerry Smith, senior systems analyst at the Albuquerque Ped-eral Savings and Loan. Like the other users, the bank is currently using the link to help prepare budgets. For

link packages have been installed the first in early 1984. A total of 25 subsidiary of submit their budgets to Smith's group, which is linked to an IBM 4381 mainframe running MVS. The analysts work on the budgets in 1-2-3

then send them back up to the main frame, Smith said.

The bank's latest PC Link project is to link the executives in a 10-node network, five in one building on a local-area network and five in another building on dial-in lines. "The thrust is to get information off the mainrame and into management's hands.

to be available at any time with very little impact on data processing Smith said. The managers, including the comny president, will access a versi of the data base to be updated week-ly, he said. For the executives' purposes of planning and evaluating how efficiently the company is oper ating, a once-a-week update is suffi

cient, Smith said For updated varsi mith said he hopes M&D will offer users a way to share templates they have prepared for use with 1-2-3. An M&D mokesman said the PC Link development effort is aimed at linking the IBM Personal Computer to minicomputers, and then linking the minicomputers to a mainframe

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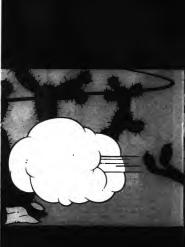
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including diskettes, is priced at \$1,500; the Student Kit, including manuals and a dis-kette, is priced at \$1,150. CDC, Corporate Telemar-keting, Mail Station

keting, Mail Station MNB04A, P.O. Box 0, Minne apolis, Minn. 55440.

H Alsys, Inc. announced that its Lessons on Ada com-puter-aided instructional course now runs on Digital Equipment Corp.'s VAX computer systems running

Version 4 or higher of the VMS operating system. The instruction package was previously available on the IBM Personal Computer and compatible machines, ac-

cording to Alsys Lessons on Ada for the VAX requires a DEC VT241 color monitor. Lessons on Ada for the VAX is priced from \$6,000

for the Microvax to \$15,000 for the VAX 8600. Alsys, 1432 Main St., Waltham, Mass. 02154.

From page 61 M&D link eases reporting

age. We didn't have that kind of money." The micro-mainframe selection was budge ed at less than \$30,000. The two-month search for a solution to Orion's problem

began in October, and soon the list of potential products was reduced to six. Price comparisons and vendor vis-

He also considered the company's ultimate objective to allow remote users in four divisions to access main frame data for their own spreadsheet analysis.

In January, Stein pro ed management with a 14-page report comparing mi-cro-mainframe products and recommending McCormack &

Dodge Corp.'s Interactive PC The pr computer users to transfer portions of foreign files into

a variety of spreadsheets, in-cluding 1-2-3. But his job was not com-plete. Now Stein had to convince both users and manageent that the product could

be supported. Emphasis on tre

"One of the main reason we got the product was not because it was clearly bethe said. "But it was the fact that we had a lot of as surance from the company that they were going to sup port us in everything we wanted to do." According to "I didn't want one product that we thought was outstanding because training wasn't a big issue to the ven dor. In a start-up information center environment, training is a big thing in my book."
PC Link was more expen

sive than some of its competi-tors, Stein admitted. "I had a little expiaining to do with management, but I pushed the training issue." Orion's workers needed a structured classroom environment. feel the best training anybody can give is in a class room, where people can ask questions. You don't get that out of a demo disk." And, he "Management doesn't want something that costs \$20,000 that no one will

The micro-mainframe link was not always a welcomed solution at Orion, according to Stein. "There was a lot of negativism," both from man ment and users, he said. Orion overcame some instal-lation problems, with the help of M&D service techni

cians, he said.
"Everybody thought they could install it themselves," Stein noted. "The financial group thought they could do it, and the technical support onle thought they cou it. We needed the help of the

For the analysts in Orion's financial group, PC Link has meant that iess time is spent generating financial reports efore installing the product, two workers spent two weeks each month generating financial reports, according to Richard Tardif, vice financial president of information. "A lot of people were keypunch operators," Tardif said. "I look at this as a great tool to get us out of the manual sweat work."

## Unfortunately information managers don't have such job security.

Even though they make decisions just as tough. Decisions where millions of collars and househol of main house as extra street that the collars and househol of main house as extra street that the collars and househol of main house as extra street that the collars and the products appear on the master daily Others disappear as a similar segarates. Making it imperative to purchase present that while sate of the sits, can pay to as in a state of exents, or the site of the s

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## SPECIAL REPORT

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September 30

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Copporate managers
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By H. Thaine Lyma James Anderson

Are MIS managers expecting a magical crease in programmer productivity in rerun for their investment in subsecond ayem response time? We think the answer is se. Unfortunately, these expectations are of supported by the research done to

decade describe how reducing the reponse time of interactive systems can dramstically improve the productivity of rongarmens oding systems development work. Anviet Tradition of IBM phonesed the area and published two articles documenting his findings. An IBM marketing amplies, "The Economic Value of Repid-Response Time," describes experiments at BM's Systems Products Division and the



Many organizations would have to double the resources available to development in order to achieve the subsecond response goal.

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The research

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In systems departments, emphasis has shifted from evaluating and trying to confirm the claims made for subsecond response time toward implementing it to achieve the benefits — as though the question of benefits is settled.



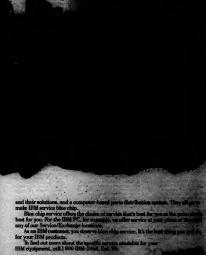
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Conclusions about productivity enhancers in the DP professional's environment need to be correlated with the tools, work patterns and activities of the future rather than the stitisu-

the editing-oriented coding of the past.





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We have seen many cases where simple before-and-after analyses are not done, where planned vs. actual's so to calculated and where this year compared to last year's not understood. Such organisations know nothing of performance variance, much less the causes of the variance.

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# THE NEXT WAVE OF USER DOCUMENTATION



The next era of documentation will begin not because someone invents a better way to show a book on a screen, but because someone will decide it is time for the technology to adapt to the user instead of the reverse.

## By Edmond Weiss

The traditional user manual is lready obsolete.

When I make this statement to teach calcular writers, I quickly reasure them that in data processing, many people work at obsolete tasks for years. (Consider all those folles still writing payroll programs in Cobol.) Some technical writers will keep laboring in their wintage 1960 reference-manual style for quite a while yet.

At the leading edge of documentation, however, profound changes are afoot. Like any futurist, I search for the future among the brightest practitioners of the present. What I see today is a second wave of interest in user documentation.

the typical manual users are not the willing victims that their ancestors were. In part, the typical users are no longer technically educated and many not educated at all, although they are literate, they hardly ever read.

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The enlightened view is that user manuals are part of a library of documents that are part of a library of book and nonbook information that is

part of a set of goods and services that support the user.

nce is merely stylatic. In many mass, however, it reflects the underminding that peritor manusia are supminding that peritor manusia are supminding that peritor manusia are supminding that peritor manusia are support systems and notiverse.

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. 77 The latest issue in user documentation is a skepticism about the notion of support itself. The first step was to provide information; the second was to give support; the third is to ask why all this support is necessary.

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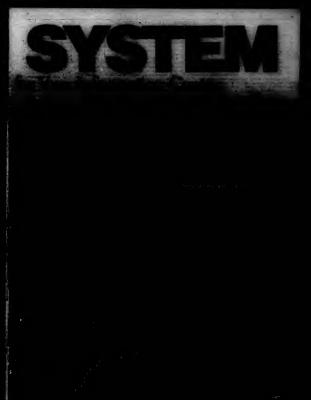
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(Perhaps "internal support" is a contradiction in terms.) The reliability of the system in use will derive less from alick manuals than from the

"transparency," a word that means obviousness) and are free instead to think and communicate in their own

terms.

Ill insight — the ability of
the system to anticipate
what the user wants and interpert the user's "errors."
To an extent, putting reference material and procedures on-line is a rodimentary form of internal support.
But a more dramatic move in
this direction would be elimi-

Writers as designers
When documenters are i cluded on the design team, they tend to become design ers. In the most advanced of velopment groups, it is diffi-cult to tell the urthers from since today's technical wri-ers work with computers using a variety is recluised, with the computers using a variety of software tools, they can be consider programmers.
These organizations the still want one-else-fits-all,

77

Reliability will be, in the late 1980s, the main criterion of system quality.

The best way to lease "New Technology is the "Old Fashioned" way



In the fourth and fifth generations, documentation converges on design. Users stop asking how welldocumented the system is and start asking why the system needs so much documentation. what users and systems do and to referee heated argu-ments between business pro-fessionals and software wun-

Inevitably, there is som

mation products and ser-vices, a system can be ope ated effectively. The next few years will a time in which support to nology increase. technology (financial analy-sis, operations research and so on), while those who work with clerks and neophytes tend to be from instructions technology or CET.

Whatever their specialties and job titles, though, sup-port engineers are united by their loyalty to the best in-terest of the users and cus-tomers and by a sense that, given the right mix of infor-

the sevent of the menual writer will evolve into the skills of the information suport specialists. Already, put its esminars on user documentation include nections on how to write Help across and interactive tutorials.

Internal support

Internal support
The next issue in docuentation is internal supternal support is less relile than one that does not
tau, whenever there is a
soloc between support domodular with a clorer doconduct with a clorer dogrowther with a clorer dotree or that it does not need
upport, the wise technical
riter will recommend the
tier.

The best news about the future is that everything the support engineers are learning about user needs and proclivities — what they incorporate into usable manuals and Help ecreens — will be directly useful in the fu-

In the fifth generation, systems will be expected to seed with the users, a skill, seed with the users, a skill, seed to see the seed of t

About the author Edward Weier is an inde-pendent constitut based in Cherry Hill, NJ. Weier teach in sechnical

The best ones also have the knack of suddenly beknack of successy or sing blinsfully naive att computers when it ses time to explain a pro-lure to a neophyte user.

Separate but united

SCIENCE/SCOPE

we generation of powerful, threats emiconductor increding can none be produced a resur-sor for connection insurantization, using the world's none regularizated electrons bears agraphy speen. The system is capable of verifies (circus) patterns with finatures as small and \$50 contents—— about 1970th to the demoter of the nose hale. It was excepted regionally by the UE minimum form years of development by the pattern of the

natroller-thrust aircraft ouglises will be tested at PASA's Lowis Research Center with share heat nation. Three Probeys\* thermal video systems will monitor, measure, and unsly in heat from the region white they are operated within the environmental test cleanable at the research center. Each obeys system consists of an infrared images, image processor, and TV display, all of which interface the accempator. Belighe designed and produces the Problem system.

A procetype Austran missile passed within belted distance of a target attentil in the flext guided bunch of its bill-richt development program. The unarmod verspen was bunched from 11.6. As Facro File of the flext passed of th

over 6c5 beth minimum parer conceins can million instructions per accord for a U.S. Navy 1847-200, in part of the Six Theories and Commerce, developed by Sauth and detailment the MRS-200, is pert of the Six Theories and Sauth and Sauth

Hashes mode conditions, scientifies, and programmers to forge new function is assessment relation, support control of possible of support control of possible or displays, neutrolled fails likely, and element control of the support control of the suppor

Although the technical challenges of implementing data administration are formidable, they are relatively small in comparison to the political, organizational and emotional issues facing the data administrator. If these issues are not understood or are ignored by an organization prior to insti-

tuting a data administrator func-I he tion, the long-term success of data administration could be jeopardized. **Politics** 



emphasize the global data management aspects of his job to overcome the preconceived notion that it is

An organization tends to spend large amounts of time and money analyzing the advantages and disadvantages of various commercially available data administration software and hardware products, yet it ignores those data management problems that are nontechnical in

rature.

For example, it is not unusual for a large organization to spend 12 to 24 person-months evaluating and selecting a DBMS. An equivalent amount of time is often devoted to

Yet most organizations are reluctant to spend even a fraction of the resources to analyze the nontechnical problems of information manage

cal problems of information management. This analysis must include pusiness systems plauning and entit analysis activities.

Figure 1 illustrates the typical

Figure 1 illustrates the typical overemphasis on technical solutions and underemphasis on nontechnical nephlem solvins.

Flausing and control.
The benefit of automated tools such as DBBS and data dictionaries can only be realised through proper plansing, control and use of the tools. For example, many new users tools, for example, many new users to date discharge in the properties that the properties that the tools of the properties of th

t is put into the dictionary.
Likewise, many new DBMS users oned the DBMS with data stored in existing files. The only thing that use changed is the data access methds involved. Often nothing is done to improve the quality of the data or

o reduce data redundancy. Most problems of data redundant and inconsistency cannot be blame in the inch of quality data tools. It is a proposed to the consistency cannot be adved with technical approaches because they are or canisational, political and manager it in origin. To expect hardware or oftware tools to solve these probess is to use the tools as a scapego or the more basic, nontechnical

problems.

While it is important that a company answer the technical question related to information management problems, an enterprise must also

to support different application a temm? For example, do the payroll system and the personnel system such have their own data bases o redundant employee information? the purchase order system and the merchandising system use separa-

customer information?

What changes could be mad
the DP organization to reduce de
redundancy over the long term?

What changes can be made to improve the communications and co ordination necessary so common data can be shared among different

B Do the existing end-user departments dictate the creation of overlapping DP systems and thus fosts data redundancy? How can the life of communication among end-user departments be improved to help r does this problem?

end-user organizations to share funding for the development of mon data, increasing the amous common data used?

common data used?

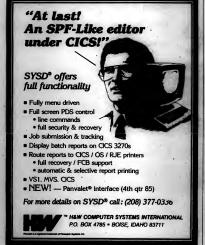
B How can the DP and encorganizations better understa

commonality or similarity of information resources?

Data administration is at a disac vantage politically within the com-

pany because neither its goals nor accomplishments can be measured by the traditional means used to realizate other members of data processing. Data processing personnel consting. Data processing personnel constitution of the personnel constitution of the processing personnel consti

and reduction in elerical work fore The success of DP is often gauge according to its utilization and opt misation of hardware and software



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countryside. Each year, large numbers of Pennsylvania Blae Shield employees volunteer their time to help with the race. "Probably 20 provent of our DP staff were involved in some land of volunteer with for the Marsthon," used high Gallagher, also a Systems Development Supervace, who countenated the record-

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staff. Because the data administrator as and the data base administrator as cialize in logical and physical data base design, respectively, the pote tial exists to create some antagonis between the two specialties.

between the two specialties.

Shifts and conflicts

Data administration is charter to maximize the flexibility and maximize the flex

to maximize the fieribility and modularity of data base design, which tends to degrade the performance of the data base and thus to conflict with the goals of data base administration.

Placing data base administration within data edministration reinforces for the data base similation for the importance of reducing data base labor costs, and data base machine costs become secondary in mortance. Thus, the traditional database administration responsibility

nachine optimization — become indary to the data administratio

responsibility — labor optimisation The shift in suspinals from machine cents to labor cents it can indicate of the gradual but standy shift in importance from data base administration to data administration between the lational data hauses (an advectable heater of the shift of the lational data hauses (an advectable have significant resulfications for data administration) can also have significant resulfications for data administration. Since relations data hauses are easier to use and uncertaint than eather trans. — results of the shift of the

ata base administration diminished in a relational environment, logially analyzing and modeling the inormation prior to physical data has estign becomes critical. Because nosalized data is much more fragment of them typical law data, the need to inderstand the logical relationship information between relations.

also becomes critical.

Thus, in a relational environmes
the need for data administration is
creases, and the need for data base
administration should decrease

The metadata maintained on the lata dictionary also decreases the med-user reliance on data hase administration staff for information monorming the contents of the data see. Also, data base machines can socentially reduce the need for human involvement in data base back p, recovery and reorganization. This will intheir erode the impor-

The data administrator The minunderstanding about de

The minunderstanding about data administration and its provocative nature have certainly taken their to on the data administration and the data administration organization is self. Some organizations have made several attempts at data administration before finally achieving some level of success.

Compared with other professions, the turnover rate of data processors is above average. However, the turnover rate among the data administration staff appears to be higher than

Significantly, although this turnwer rate is high, few data adminisrators leave data administration to when to traditional DP ranks outide of data administration. On the contrary, most unhappy or unchalenged data administrators will shift commanies but not robe.

blook data administrators are mo decistated to their profession than it their employer. Although there is a their employer. Although there is a made and uncertainty surroum, find a distribution of the necessity of their roles and desiration personnel are convinced of the necessity of their roles and desirated to the task. The typical data cannot under the same their profession of the necessity of their roles and desirated to the task. The typical data global planning, management, control, investors, and integrity of information are cassential to the long-temporal profitability of an enterprise.

William Durell is president and fromder of Data Administration. A Collection of Data Administration. The Collection Research of Data Administration flact management. During his 13 years management. Puring his 13 years p.P. he has accrede an a programme analyst, project leader, data administration is the author of Data Administratio a published on the implementation on the implementation.

# IBM SYSTEM/3X TWINAX TO ASYNC SOLUTION.



# MICROCOMPUTERS

# **HP offers Laser Jet Plus** in high-end printer mart

# MMA, Tasc: joint venture?

# Add-on graphics processor out

# IBM SQL/DS and DB2 relational DBMS now on PC

## Harris micro compatible with IBM

Personal Computer Computer Corcomputer.

The Concept 2000 is based on the Intel Corp. 8088 microprocessor chip running at 4.77 MHz. The product runs the Microsoft Corp. MS-DOS 2.11 operating system and uses the Phoenix Software Ltd. basic I/O systems.

# McDonnell Douglas unveils analyst aid

Louis.

The Prokit-Analyst software reportedly runs on the IBM Personal Computer XT or AT and uses structured analysis techniques to create a data base for software systems de-

# sign. The software permits analysts to draw and edit data flow diagrams SOFTWARE

emory. VMSYM is priced at \$75, the v

The product reportedly provides dictionary analysis and documentation, with automatic creation of the applications data dictionary. It also offers full integrity checking, under which it enforces standard rules on the user as the user creates and updates data flow diagrams. With Prokin-Analyst, reports may

COMMUNICATIONS

tie Quadda72 guterray board, a mi-re-mainframe commenceties re-mainframe (commenceties Quada728 reportedly offers a limb between local-area-netwark-based BM Personal Computers and main-terna Network Architecture. It supports PU Types 1, 2 and 3 commencetation and emisses an IBM 3274 Model 510/GHC remote BM 3274 Model 510/GHC remote provides for BM 3278-type display emission and offers four-onder BM 2279 emission and BM 3278 petiteder

microprocessor. It is sold in three versions, offering support for eight, 16 or 32 logical units on a local-area network. The versions are priced at \$4,529, \$4,963 and \$5,742, respec-

Quadram, 4357 Park Drive, No.

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# Microsoft launches first net application package

By Din Bunder

BELLEVUE, Wash. — Microsoft Corp. late last mouth rolled out its first network application, a version of the liferceoft Word word processing package that runs on most IBM Personal Computer local-sive networks. The move by the second-largest independent microcomputer

evendors agreed.

Available Sept. 15 f
\$1,195, Microsoft Word
Networks establishes liceing practices that supplie
will follow for future as
work amplications, produ-

The basic package includes software and manuals for five network nodes, with pricing set at three times the single-sner price. Stevens noted. Microsoft Word for Networks will: be sold through the company's key dealers, who will be able to split open the five-node package for customers who want to install the software on more than five but fewer

### Hot copy protecto

Unince the migne-user we sions of Word, the netwo software is not copy protected. Stevens said. Microso dropped copy protection because "It degrades performance of the product on the and inconveniences uses "be completed."

for its first network applies ton because "it's one of our major products, and there was a lot of demand." She was a lot of demand. She was a lot of demand in the evironment." with on prime feature being support for the laser printers that many users want to share or a network, he maintained. Microsoft, which expect 30% to 50% to business sin

30% to 50% of business micros to be networked within the next couple of years, cur rently is evaluating the manket potential for networversions of Project, Chari Multiplan and others amon its offerings, Steven said.

first word processor tha really tries to take advantage of a network," he said. Both style sheets, which can save formats and automatically apply them to varied docu ments to give them a stan dard appearance, and glosse ries, which allow users it store frequently used boiler plate text, can be shared among various users in

work group.

Tracor Applied Sciences,
Inc.'in Rockville, Md., which
installed a beta copy of the
program on a Corvus Systems, Inc. Omninet, has been

very pleased with the overall results, according to technical editor Bichael Kleinbeck Acting as a contractor to the Naval Electronic Systems Engineering Activity, Tracor found the style sheet and

found the style sheet and glossary features particularly useful, Kleinbeck said. "Dealing with the government, you're dealing with

I pointed out. Once the styles are created on the network. new users automatically print out documents in the proper formats. Glessary functions prove useful be cause of the government fondness for long titles and

r functions prove useful because of the government's fondness for long titles and obscure acronyms, he added. The ability to move to a

Tracor began talking with t, Microsoft about standardising on Word 114 years ago, Kleinbeck said.

word for Networks will run on the IBM PC Network, other networks compatible with the Microsoft Networks system software or on existing networks supplied by AST Research, Inc.; Corvus

Nestar Systems, Inc.; Nove Inc.; Orchid Technology C SCom Corp.; and Unserman

locking, either through MS DOS 3.1 routines or through network software in existin MS-DOS 2 networks, Steven axid. Network print specifiq and print job separation also



nd R:Base 4000, Microsoft

String of vendors unveiling net tools

OARD-LEVEL DEVICES



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That holds true only if the various elements, however numerous, are working together.

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## A NEW BUSINESS ASSET

A met we doubt be looked at ord, and the work of the country is a communications tool, but camply is a communications tool, but camply is a communications tool, but camply is a communication tool, but camely only the country of the

even nationwide, look into our Dis-tributed Communications System. With it, multiple systems serving up to 100,000 lines can function as one. It also offers extensive voice and data terminal transparency, and attendants can con-transparency, so stemfarous one loca-troi the entire system from one loca-

Remote Groups let you extend System 85 capabilités to mail location via DSI afformation (Franchiste Mentre 1987). The standard of the standard

### CONTROL AND ECONOMY

CONTROL AND ECONOMY

Once you've linked your communications into one network, you'll have
noted to powerful features working
to increase productivity, reduce costs
and give you more control over your
communications. Automatic Route
Selection, Automatic Route
long, and Queeting choose the lesset,
And "Authorisation Codes" great
calling privileges to appropriate
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employees.

ployees. With all your offices under the

umbrella of one system, networking can help create another business asset—a single, consistent corporate identity for every branch of your organization.

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Community to page \$12 program for the first state on the circumpation with the program for \$12 thinks may be for the program that read or could be program to be so the country of the project regions \$100 to \$120 bytes of memory, the 700 to \$120 bytes of memory, the 700 to \$120 bytes of the first bed and a 100 byte had did for legar and \$100 bytes had did for legar to \$100 bytes of \$1

bytes. The Memory/Plus board is designed for use with CXT's 2070 PC consigned for use with CXT's 2070 PC consection, 3274/PC Plus remote connection, 3274/PC Plus remote connection and 3274/PC Plus for most connection and 3274/PC Plus for the DOS operation and 5274/PC Plus for the DOS operating system. The Memory/Plus board is said to make the DOS operating system. The Memory/Plus board is said to RAM on the ENP reviewed Computer, 1925 additional bytes on the Presonal Computer, 1925 additional bytes on the Presonal Computer, and 1926 additional Computer, and 1926 additional Publishment of Computer Plus 1925 additional Plus 1925 addi

bytes on the Personal Computer XT with the IBM Enhanced Graphics Adapter. The product is reportedly organised in four 64K-byte memory blocks, which can start on any 64K-byte boundary up to 896K bytes.

The Memory/Ptus board is priced at \$396 and is available for \$200

The Memory/Plus board is at \$395 and is available f when purchased with su CXI products.

CXI, 3606 W. Bayshore Ro Alto, Calif. 94303. od. Pala

illo, tomp.

8. Emister Corp. has announced a monochrome display sologuer and to manufacture display sologuer and to the manufacture display sologuer and to the manufacture display to the foreign and the manufacture display to the foreign and the first in Francisco Computer or Frencal Computer or AT. It reported provides Solotar by Serow display, una control of the manufacture display to the first display

The optional parallel port report-edly supports either Centronics Data Computer Corp. or Dataproducts Corp. printer interfaces. The cost is \$226 for the standard product and \$250 for the printer port nelex, P.O. Box 6725, 3545 Ho lvd., Costa Mesa, Calif. \$2526.

The RAM-78 board is said to allow users to add 2M bytes of expansion random-access memory to the Unix PC. The memory is built on a plug-in card that requires one slot in the commuter.

Colorgraphylus is priced at \$295. AST Ressurch, 2121 Alten Acc., Ir no, Calif. 92714.

faster286 costs \$2,396. The 87 option costs \$350, and each stional 512K bytes of random-ac-memory is \$400, according to the



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HP offers Laser Jet Plus in high-end printer mart ts of HP's

AUXILIARY EQUIPMENT

There are two models The \$119 PCPC 150 hands (1.25A). The PCPC 300 was de

larger personal computers and handles 300 kVA (2.5A), according to Sola. It costs \$149.

Sola. 1717 Busse Bond, Elk Gross Wilage, Ill. 60007.

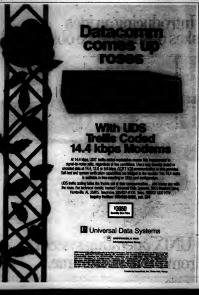
Will MMA, Tasc join forces?

region — one Last Venuors com-more easily ignore.

A better approach would be for the MMA of New York to become affiliated with Tasc and to speak as part of a unified voice of microcom-puter managers nationwide, while retaining its name and chapter au-

snomy.

Such a union would give Taxe a ase of members in the city that the sum of the su



# How to choose the proper financial model

THE IN A THREE-PART BENEF

To do his job well, a communications manager must innov her purchase the right equipment

Suphinticated financial models have existed for a long time. The need for these was comervial less or ideas when communications or orders when communications equipment was relatively inexpansive or when equipment leater from 8 to 16 years. Deday, equipment many well he chantles by Clas they it is

Affined in an exercists vice provides

cess. Next, f will present four techniques that for capital budgeting. Generally, this is the best of the fourmethods listed. The first step involves calculating the net cosh flow generated to a small control of the control of the control

calculating the net cost flow generated by a project. The net cost flow relay's with people revenues and selecture to present the that depreciation, capital expositions of the That depreciation, capital expositions and taxos. Texos are eather than the text rate amplied to revenues and by subtracting all project exposes, including depreciation.

The net present while it the pass of

the present value of all fitters cash flows, mines the still case. A positive next present value means that the project yields a rate of return expecting the cost of capital, a magnitue next present value means that a project value means that a project carms less than the rate of interest from a bank.

positive, the process is not uncorrection if the not precess twiles is anguitive.

The exceed method in volves methodity outdoor enthementies, such as beying either mades A or modes; B. If the not present values of both eliteratives are positive, the select the one that has

The internal rate of return method gives a rate of return on a project. If the rate of return expects the cost of capital, then the project is colocted. If the internal rate of return does not exceed the

nal rate of return does not exceed the cost of capital, then the project is not calcuted. Bitternal rate of return can be explained by the following assuments. A

plained by the following accessorie. A manager has 51. This manay, if put into the intended project, will core cash at various times. If the rate is low, the project sized not be accepted because o

Continued on page

Local Data has nounced a protoi converter of connects up seven Asoli detes to an IBM stem/34, 36 or

T-Ber has inoduced metrix ellipses with a problemed caacity of 2,048 routs/89.

ptecel menters/01 diplement/

Moderna/86 Lacal-Area Naturala/88 Test Equipment/88

# Firm launches Net management aid debuts E-mail micro

E-III MICTO

puter designed for sours of electronic stall services.

The ATC 100 features two 380K-byte disk drives, 286K bytes of random-access memory, a sonochrosse mentior, commutantial communities.

182A printer.
The product works with communications products from MCI Communications Corp., Western Union Co. and TRT Date Monitors 512 modems

Anderson Jacobson, Inc. of San Jees, Calif., has become the latest vendor to enter the rapidly growing network managment field. The company's foolem Dismontic and Tust System monitors and controls up to 612 four-wire lease-line mo-

The product supplies wreparound boxes that work with modern transmitting de and two suritary inputs. It also rerds network performance and can help restore line problems.

to reserve one processes.

Doers can define operating threshel and set alarms for conditions such as as leg carrier level, the mander of signals as 16-222 interface and the presence of streaming condition in a modes. These or erating thresholds may be checked changed and managed centrally for up 256 modesm.

around bonns.

Prices range from \$4,196 to \$14,480 for the central controller and an \$205 for the

# Boeing instrumental in creation of new users group

Exec sees TOP as companion protocol to GM's MAP

By helty Booler
SAN FRANCISCO — Booleg Computer Service
Co. (BCS) has gained approval to take the lead is
supporting an infant users group that seeks to pre
mose communications standards for offices as

supporting an intent users group that seems to promote communications standards for offices and factory Boors.

On Aug. 20, company President Robert Dryder

the emperative development of the emery Tuchnical and Office Protocols (TOP) users gro The assouncement of Dryden's blessing or here on Aug. 28 at the annual integrated infortion Technology Conference and Exposition

tech).

Drycken's decision will permit selected Bos employees to take time off to serve on TOF's a committees and serve as Italeons between grmembers and standard-esting bodies, according

To increase the TOP users group's chance of moons, ECS will have much of the burster, of she was the group of the property of the up a TOP task force and technical review committee, and we will be the focal point for collection and dissemination of TOP information," Dryder

But in reaghly a year, the company will grade ally begin to "steep back from some of its fleade shiply dettine and let some of TOP's other member companies start to carry the ball." Bride said.

Currently, most of the TOP organization's me breakly are users of the Manufacturing Automation Treatment (MAP), which General Motors Correlated to the Correlated States of the

sector, according to Brids.

But despite its great ste, the manufactur sector by itself is probably too small to create a ficient market demand to persuade vendors to valop products that conform to TOP specification.

In the future, the TOP users group will seek broaden its membership best beyond the manutturing aroun to include representatives of servoriented industries blue banking and insuras firthe self.

The implication affect to ignore a demonstrate the part during an interview of the but we can do so in concert with a lot of other users."

panion protocol to MAP" and envisions it as a communications standard that will do for offices whe the GM intercemention scheme has already donfor factories. If the BG3-led users group successed in diversifying its membership, TOP may someday course as a common protocol for explanation info

Both MAP and TOP conform to the first thre levels of the seven-layer Open Systems Interces nect protocol. The third level, which defines the specifications for networking dissimilar equip ment models, was added only recently and link devices in a MAP environment to their TOP coses.

devices in a MAP environment to their TOP construction of the instructing capability was a important advance in the development of TOP because office workers need to have access to infe

The first public demonstration of intercommended MAP and TOP covironments with the false



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# Data acquisition units bow

e DT6732 is a

unput is compatible with Digital signment Corp.'s Q-Bus and Multi-and the bus on the IBM Personal spater AT.

The DT216 f

Local Data converter links Ascii devices to IBM systems

# **Bell Atlantic** gets FCC nod for expansion



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# MULTIPLEXERS/ MODERS

The preduct works with the DEC P-11/23, 11/73 and Microvax Q-m-based systems and is compatible til DEC's RSX11 and RSTS/E oper-

ng and diagnostics, including error etection and six loop tests that can e operated centrally. The AJ 4801 is priced at \$1,496 and is available immediately. Anderson-Jacobson, 531 Charcot or., San Jose, Calif. 95131.

## T-Bar introduces 19.2K bit/sec. matrix switches

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# **SYSTEMS & PERIPHERALS**



# Research, acquisitions tell Honeywell's tale

# School district's NAS drives get high marks

Cache controllers provide IBM power at 60% of cost

# MP32 series array processor

# Floating Point Systems adds | SI clusters Microvax II

# Shiva unveils turnkeys said | Study eyes optical disks to speed circuit simulation

SX series based on Sequent system

### PROCESSORS

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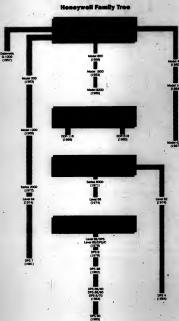
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SYSTI







### tescarch, acquisitions ell Honeywell's tale

1967, and Datamatic became a divi aton of Honeywell.

The Datamatic Division product its first system, the D-1000 in 196: which was installed by Blue Cross and Blue Shield of Michigan. About

and Blue Shield of Michigan. About 14 of the vacuum tube D-1000 units were installed, recalled George Ofsen, now a director of quality management for Heneywell. The D-1000 save way to the Mod

agement for Heneywell.
The D-1000 gave way to the Mode
800 processor in 1969, which was
superseded by the 1800 model in
1962. Also in 1962, Honeywell unveiled the Model 400, which used as

innovative sease age: switch patented by a young researcher at MIT. That researcher, Ken Olsen, was the founder and chief executive offieer of Digital Equipment Corp. The Model 400 was an attempt to compete with IBM's 1400 series of processors, noted Boneywell's George

Olsen. The Model 400 was supermeded i 1985 by the Model 200, which Rep eywell's Olsen claims was five timsory well's Olsen claims was five timmore powerful than IBM's 1401. In 1986, Roseywell scupiered an other company, Computer Control Co. of Frantingham, Mess, which added two small 16-bit missicomper ers to the Rosey-well Research Landon, which

in 1970.
But by far, the most significant turn of events that propelled Honeywell into the mainframe business was the acquisition of General Elec

was the acquisition of General Eletric Corp.'s failing computer business in 1970.

Honeywell called the deal a "ps

tial purchase partial pooling,"
whereby both Bonsywell and GE
would contribute to the formation of a new firm. The firm became Honcywell information Services. Honcywell owned \$1.5% of the company
and GE owned 18.5%.

the new company, Roseywell agree to give GE 1.5 million shares of stor and \$110 million in notes, interest free, for the first year. The merger led to the acquisition of Series 60 and Series 6000 processors, which have been eshanced into what is th

interest in another failing computer company — Xerox Data Bystems. Honeywell agreed to assume marketing, support and maintenance for the Xerox Sigma line of mainframes. Honeywell eventually developed a migration path to allow Sigma users to move to Honeywell mainframes.



"Fortunately, this is a problem that can be solved by throwing money at

### \_

But by far, the most significant turn of events that propelled Honeywell into the mainframe business van the acquisition of General Electric Corp.'s failing computer business in 1970.

That same year, Honeywell intr duced its Level 6 line, which it cosidered a major thrust into the mi

computer beatmen.

The company began emphasizing distributed processing in 1977 with the announcement of its Distributes Bystems Environment and an extension of that environment to the Lev 86/Distributed Processing Systems.

mputer business in 1970.

DPS 8 line, and the Goos S operating system were added in 1979, follower by a family of small, distributed processing systems, the DPS 8 and various word processing and administration systems a year later, marking Honeywell's entry into the office automation market. The DPS 7 a family of

automation market.

The DPS 7, a family of mediumacale systems using current-mode logic technology, was introduced in mired Action Communication Bysens, Inc., a tenden switching and crivate voice network vendor, and engaged it the Communications Net-

renamed it the Communications Networks Division.

A new line of large systems, the DPS 88 family, was announced in 1962, but Honeywell shifted its attention to small systems in 1963 with the introduction of its first microcomputer, the Microsystem 6/10.

DF6 88 serias and signed a technology agreement calling for Honeywelt to use NCR Corp.'s 32-bit very large scale integrated processor chips in developing a future computer.

Earlier this year, the computer, and high-ond system, the DF6

added a high-end system, the DPS 50, designed to serve the commercia engineering and scientific communities as the central system in large distributed networks.

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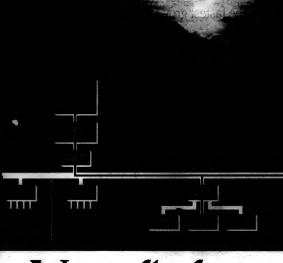


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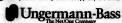
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COMPUTER SYSTEM

### SYSTEMS & PER

A (typical configuration includes an enhanced CPU labs in said to offer curior, the performance of the basic unit, 28th bytes of main memory, 28th bytes of main memory, 28th bytes of main memory, 28th per labs, an Ethernet controller, six SE-202 I/O ports and one Versatec, line, I/O port. The typical configuration costs 48th, 750.

Computervision, 15 Crosby Drive, Bedford, Mans, 01750.

### DATA STORAGE

n Wilson Laboratories, Inc. has un-wropped a disk drive analyzer that is said to test up to four Winches-tor-type drives in sequence. The Digital Analog Test System-2000 (Dats-2000) analyzer incorpo-

rates analog testing for missing pulse, extra pulse, phase margin, am-plitude and resolution. Digital ana-lyses verify media defects, measure read window margins and check for-mat, write/read, timing, seek action

and status/control monitors. Analyzers that work with all Storage Technology Corp. ST505 or ST412 drives cost \$14,865. The Data-2000 may be ordered for drives with an enhanced small disk interface at a cost of \$15,175.

Wilson Laboratories, 2337 N. Butavia St., Orange, Calif. 92665.

### **TERMINALS**

If Wyse Technology, Inc. has an-nounced the release of two Ascii terminals that will be said through

# CIM: Future of factory

# OFM aids priorities a design cycle





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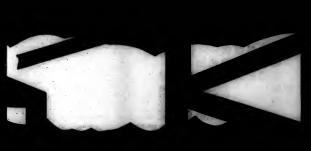
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PANISOPHIC

Paratophic Systems, Incorporated, 709 Emicrosise Drive,

#### PRINTERS/PLOTTERS

Florida Data Corp. has an-secod that it has added an inter-interface capability to its ma-c printer blodds OSF 150 and to allow compatibility with it's Stystem/84, 36 and 36 mini-

The Model OSP 180 is said to have

The moder took took saws to be a triple paper path.
It comes with serven resident fowls and prints up to 600 char./sec. in fruit, mode and up to 100 char./sec. in letter-quality mode, according to Piorida Data.
The Bédel 2000 tractor-feed data processing printer comes with as resident forta and prints up to 675

# School district's drives get high marks

nce costs for the IBM and NAS sigment are about the same, he

quipment are some sided.
Before NAS added the cache con-roller feature to its disk devices.
Brewer bought two strings of 1380s that had the controller. Buy-ing devices with the cache feature was an attempt to suprade the re-sponse time performance of the re-sponse time performance of the re-sponse time performance of the re-

special to the providence of the four-person paid.

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#### From page 95

#### SI clusters Microvax II with interface to 9000

with interface to 9000 misses set time. The nuit is available in four storage configurations rate-ing from 12004-bys (14,000) to graph (12,000) to graph (12 or syst

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# **COMPUTER INDUSTRY**

# Analyst: Chip market down until 1988

### GEM buoys Digital Research | Downturn seen

Firm looks to corporate sales to boost revenue

# in service bids

PE looks to new products

# Lotus position inconsistent



# as buffer against slump

### CMI lays off 160 employees in wake of lost IBM contract

### Filing software copyrights



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### Mergers, acquisitions growing in info services mart



The information services and soft are industry is one of the most equisitive in the U.S. economic

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ris have transcoming over con-reed, return on investment per se hi not been the dominant consideratio in the short run. This factor could change in the future as buyers' rand well with firms from outside the industry accustomed to slower growth rates and different inariest conditions that demand more conse

#### 'a money to be m

From the seller's point of view

their companies public during that Yambo high rate of merger and social warms high rate of the companies of

ts is a partner with Broadvi-iales, a Fort Lee, N.J.-bas that specialises in informati

ing. With these two avenues blocked at a time when second- or third-rotund financing is required, doesns and perhaps hundreds of firms will be driven to the energer and acquisition alternative to keep momentum, going, if not to stay affect.

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#### Shareholders **OK Harvard** Software sale



What workstations deliver up to twice the floating point speed of DEC MicroVAX II?

### Hitachi to purchase U.S.-made products | AT&T Spain

Datacom, Microsoft gain major contracts

I me sepaneee industrial giant said it will announce additional contracts with U.S. vendors totaling \$15 mil-lion in the next two months, part of its plan to buy \$400 million worth of U.S. products in fiscal 1986.

Microsoft's \$2.3 million contract represented the ilon's share of Bita-ch's \$4.3 million investment in in-dustrial components and other prod-ucts, which include software. The largiest product category in-volved in the purchases was manu-facturing, research and development, equipment, in which Bitachs aigned contracts worth \$12 million and reached agreement on \$15 million and reached agreement on \$15 million and

# venture gets U.S. license

#### **NAS** announces Korean venture

### Xebec settles with Miniscribe



REALIA

What workstations deliver up to six times the speed of IBM PCAT?

### Dyna found guilty of copyright violations | Franklin

SANTA CLARA, Calif. computer retail store has been ordered to forfeit its entire inventory of alleged Taiwanese copies of Hercules Computer Technology, Inc., graphics cards.

right and unfair competition laws by selling copies of the Hercules Graphics Card, a monochrome graphics expansion board for the IBM Per-

sion board for the IBM Personal Computer.

Dyna Systems, a singlestore operation, was ordered to pay Hercules' legal expenses for the July 5 suit and turn over the boards, ash-

documentation to for either destructi possi.

'Unfair competition'
"It was unfair comp

ey, Calif. based Hercue strategy of Hercules

products. We will be washing the marketplace and washing the marketplace and washing complaints from a customers to ensure they are not using conied necessarily.

Hall said he did not kno the number of boards the Dyna Systems will turn ove to Hercules.

#### Franklin pays debts, issues stock

PENNSAUKEN, N.J. — Franklin Computer Corp. recently issued more than 70,000 shares of its common stock to creditors in the latset phase of its bankruptcy

The wester of Apple Comproperty in the company of the shares spectra issued the shares spectra issued the shares registers for self-the procession of the control of the state of the control of the spectra of the control of the control of the spectra of the control of the control of the spectra of the control of the control of the spectra of the control of the control of the spectra of the control of the control of the

The creditor-shareholders till share ownership of the empany with meangement and the New York venture spital firm of Bensissance schoologies. Bensissance schoologies. Bensissance surtner florton E. David is ranklin's chairman, chief

in order to recoverge in the erronal computer market, ranklin plans to shift much

Last month, Franklin a quired Cord Electronic, in of Westbury, N.T., an OEi vander of electronic compensts and subassemblic from its plants in Japan, Twan, Hong Kong and Sout Kores. "It is anticipated the a substantial portion or Franklin's future production will be sunstantial."

Pranklin is exponounce a micro product line, the As-



Ridex Corp. reported revence for the flatal year of \$250.5 million, as increase of \$6% over the \$178.2 million for the previous year. Position for the year were \$24.5 miltion, or \$1 cmts per share, compared with \$24 million, or \$1.00 per share, in the like period one period one period one

Bevense for the quaended June 30 was 188.4 at lion, up 73% from \$61.2 i lion for the name the months a year ago. Prowere \$7.9 million, or 19 or per share, compared w \$6.4 million, or 25 cents share, in the comparable

Trillegy Ltd. reported r

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DIMES som page 124
enise for the second quarter of \$1.4 million, compared with \$4.3 million to in the like quarter on year sex.

in the like quarter one year ago. The company reported a net loss of \$3.4 million, or 10 cents per share, compared with a net loss of \$69.5 million or \$1.57 per share, in the corresponding quarter one year earlier.

Timoplex, Inc. announced revenue for the year ended June 30 of 896 million, an increase of 45% over the fiscal- 1984 revenue of 866 million. Profits were 310 million, or \$1.15 per share, compared with \$1.1 million, or 13 cents per share, in the same quar-

Revenue of \$26.3 million for the fourth quarter of fiscal 1985 in creased 36% over \$19.3 million for

ly profits were \$2.4 million, or 28 cents per share, compared with \$1.9 million, or 22 cents per share, in the comparable quarter last year.

Network Systems Corp. reported revenue for the second quarter ended June 30 of \$24.3 million, up 51% from \$16 million a year ago. Profits for the quarter were \$5.3 million, or 18 cents per share, compared with \$4.4 million, or 12 cents per share,

Endata, Inc. announced secondquarter revenue results of \$12.8 milion, compared with \$12.4 million in he corresponding quarter last year. let income was a loss of \$354,000, or 6 cents per share, compared with profits of \$581,000, or 14 cents neComputer Memories, Inc. reported revenue for the first quarter of fiscal 1996 of \$50.5 million, an increase of 164% over \$19.1 million in reve-

year.

Profits were \$4.8 million, or 43 cents per share, an increase of 606% over \$948,000, or 9 cents per share, in the like period one year earlier.

Masster Systems Corp. reported net loss of \$3.4 million, includir \$2.5 million in operating losses, in it second quarter ended June 30, con pared with a net loss of \$5.3 millio in the same period a year ago. Second-quarter revenue rose it

Archive Corp. announced profits

ended June 28, an intrease of 55% from the \$10.2 million reported a

Profits for the quarter were \$383,000, or 4 cents per share, from the \$636,000, or 6 cents per share, re-

Research, Inc. reported a 233% in crease in profits for the fiscal yeaended Jaine 30 of 819 million, of 81.96 per share, compared with 85. million, or 66 cents per share, in the corresponding period one year ago flevenue was \$188.6 million, compared with \$53.9 million in the prior

year a quarter. Fourth-quarter profits were \$6.7 million, or 61 cents per share, on revenue of \$42.4 million, compared with profits of \$1.7 million, or 20 cents per share, on revenue of \$23.6 million is the comparable seried one year and

Seagante Technology, Inc. report of profits for the fourth quarter of 712,000, or I cent per share, including a tax benefit of \$1.7 million; is he year-earlier period, the company of the period profits of \$10.5 million, or 2 cents per share. Revenue we first profits of \$10.5 million, down from \$100.5 million in the like quarter last year.

Despite a reverse tone of \$10.2 million.

Dispite a pretax tose of \$10.2 m tion for the year ended June 30, n profits were \$1 million, or 2 cests p share, including a tax benefit \$11.3 million; in the previous yes seen per share. Revenue for the ye reas \$21.45 million, compared wi \$134.5 million the previous year.

Ricer, Inc. reported revenue for ne second quarter ended June 16 of 5.5 million, compared with \$8.6 million last year. The firm posted a loss \$4.5 million, or 40 cents per share, empared with a net income of \$1 illion, or 9 cents per share, in the use quarter one year ago.

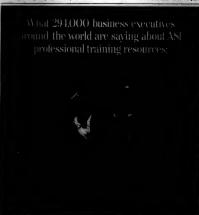
VLSI Technology, Inc. announced acond-quarter revenue of \$19.6 mil-on, compared with \$17.5 million a sur ago. Profits for the quarter end-d June 30 were \$115,000, or 1 cent er share, compared with \$2 million, i 10 cents per share, to the compara-

Duquesne Bystema, Inc. reporter remains for the third quarter ender June 30 of \$2.9 million, up 45% from \$1.9 million for the same period a year ago. Profits for the quarter were \$653,000, or 26 cents per share, compared with \$300,056 or 19 cents per share, in the like period a year ago.

Treng Laboratories, Be. as nounced revenue for the second qua ter ended June 30 of 5719,963, a 33 increase from \$459,625 in the sam period one year earlier. Profits for the quarter were \$82,305, or 5 over per share, compared with \$58,256, c. 2 contin per share, in the corresponding period last year.

IPL Systems, Inc. reported a los of \$471,000, or 9 cents per share, o revenues of \$620,000 for the quarte ended June 29. A year earlier, the company reported a loss of \$2.3 million, or 45 cents per share, on revenue of \$1 million.

Camber Corp, reported a net is of \$389,000, or 30 cents per share compared with profits of \$71,000, 4 cents per share, in the same marri

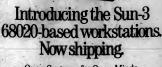


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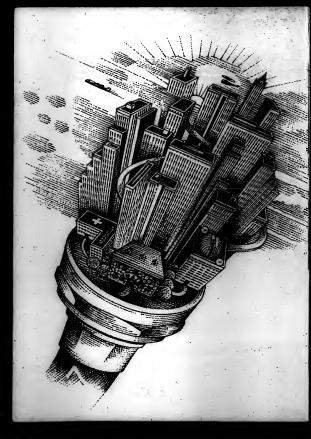
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# DIMES sum page 126

Revenue was ion, compared lion last year.

GTE Corp. reported prof-its for the second quarter to taled \$285 million, or \$1.33 per share, compared with \$225 million, or \$1.41 per share, in the same quarter lest pear. Revenue was \$3.9 billion, compared with \$3.6 billion a year ago.

Systematics, Inc. posted evenue for the year ended lay 31 of \$86.9 million, com-ared with \$78.7 million last tear. Profits were \$8.6 mil-on, or 79 cents per share,

compared with \$6 million, or 56 cents per share, in the pre-vious year. Fourth-quarter revenue was \$26.9 million, up 30.2% from \$20.7 million let the same quarter last year. Profits were \$2.6 million, or 15 cents per share, in the like quarter one year ago. one year ago.

one year ago.

Nashna Corp. reported profits for the second quarter ended June 28 of \$3.9 million, or \$1 cents per share, compared with \$6.2 million. compared with \$6.2 man or \$1.31 per share, last ye Revenue was \$153.9 millio compared with \$145 mill reported in the second que ter of last year.

COMPUTER INDUSTRY From page 115

Downturn seen in service bids

in service bids
for more than two years, after the company made the
strategic decision to try and
capitalise on the service organization it built to maintain its own products [CW,
March 5, 1984]. With hardware prices declining and
equipment becoming more
dependable, asset utilization

tate that systems vendors at-tain higher service force pro-ductivity by maintaining equipment sold by other ven-

equipment told by other ven-dors.

The \$170 million that Bell
Atlantic Corp. paid last year
Atlantic Corp. paid last year
loc 's Sorbus, Inc. service di-vision and the \$117 million
bid that TRW, Inc. recently
[CW. Aug 26] offered for the
(CW. Aug 26] offered for the
paid of the service division and the service division and the service division and the service dipaid of the serv

o velue

But in Charlton's view But in Chariton's view, those prices have outpaced the value of the acquisitions. "At some point, the law of supply and demand will take hold, and the value of these deals will get back to a realis-tic level."

tic level."
TRW's recent offer could
prove to be a problem for a
company that has traditionally expanded through acquisition, according to Chariton,
By bidding up the cost of
such deals, TRW may actualty make its long-term acquisition strategy too expensive,
he speculated

Some consolidation in the burgeoning service industry is inevitable, according to Chariton. But he said he

thinks greater attention will be devoted to the actual prof-it and loss potential of the ac-quisition target.

The ultimate goal of the leading tier of service compa-nies is to be able to establish nies is to be able to establish a nationwide organization capable of offering complete maintenance service to any particular business. All major vendors — even IBM to a limited extent — are moving toward offering complete service for equipment tied into their own proprietary

that their own properiously products.

Among the large vendors, Control Data Corps, Sperry Corps, NCR Corp, and even AT&T have moved into or are exploring the profit potential of integrated service.

The continued performance and dependability of hardware, "service companies will be transitioning to soft-ware support, networking and communications support, and opposed to hardware," as opposed to hardware.

Although service of large numbers of commodity ma-chines, such as microcomput-ers, will always be nelected based mainty on pricing, the tervice of integrated infor-mation systems is increasing-ly selected based on the abili-ty to obtain on-site service and keep the system running, be said.

than 40 hs

Putting together a nati wide organization capable of servicing varied software in-large businesses is no easy feat, however. Honeywell's approach, according to Chartton, is to build up to that canability.

ers to pro

service co er aspect of ti Another suspect of the format of Another suspect of the for targe businesses is no easy wife errored disgnostic est. however, floreywell's vice, which is much no poptrack, according to effective for dealing with hartford, its lo boild up to software service than hart One key suspect, he said, is Charless.

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#### Mergers, acquisitions on the rise

services and software industry's 35-

There remain several thousand companies that fall into the less than \$10 million revenue class. Although these smaller firms have provided a comfortable living for their founders and have continued for 15 or 20 years as reasonably stable enter-

prises, current market conditions are forcing drastic changes in the way these companies operate. These firms are major acquisition targets for the last half of the 1980s,

targets for the last half of the 1980s, as their founding entrepreneurs begin to examine methods of achieving liquidity and diversification of their

portation.
The industry as a whole is alive, vital and growing in importance annually. Continued consolidation through the merger and acquisition process will help keep it so for the remainder of this decade.

#### Lotus position inconsistent

to selling seniconductor manufactus ing and fabrication equipment over neas comes not from the Japanese, but from the U.S. government.

Because U.S. Department of Difense security regulations, any expert of new, sophisticated chip maling technology requires the acquisition of a license for the particular buying country. That trans-

acquisition of a license for the particular buying country. That translates into the inevitable delays of the bursancratic red-tage labyrinth up to 18 months in many cases, according to Hansen. And we're not talking about sales to Libya or Iran but to France, Japan and other allies

everymony, so it is a simple proces for the buying nation to obtain siz lar technology from someone else a West German vendor, for examp rendering the socurity risk last essentially moot.

against a country, Japan, whose go erament subsidiase its companies, the actions of our own government are really counter to our efforts," Hansen said.

Corp. of Pennasutien, N.J., appears to be climbing back admirably from the depths of Chapter 11 protection under the Pederal Bankrupter, Cit, its unbridled press release optimism seems a little pressure in the product of the Chapter 11 protection to the Chapter of the Chapter

The adventure part seems credible enough, if adventure means not being exactly sure where those stormy seas will take you. If nothing else, the past and present computer industry shakeout should have sobered everyone into a more realistic view of future demand, growth rates and

customers' real needs.

But the implication that the next computer boom is just over the horizon sounds ominously like the would-be computer surns of the next.

would-be computer gurus of the e iy 1980s who are busy eating thei words — and going into consultin

#### GEM buoys Digital Research

Digital Research
to be profitable.
Rowley preficted that

Rowley predicted that, in the U.S. market, Digital Research's future system golfware revenue figures will be roughly flat, with growth coming in the applications market. "GEM brings us right into the mainstream of the IBM environment," he said.

of the IBM environment," he sai "Our target market is the Portus 2000." In this arena, "an absolute trend that the information center and ti DP manager are getting control

purchasing," he noted. Digital Research currently is finalizing details for a number of site licensing options, which will be released this month. The firm has demonstrated GEM

tion with IBM, he said. IBM's National Accounts Marketing Division "has worked closely with |Digital Research| since we introduced the product"

#### Mile reported offer descriptions

Rowley downplayed recent press, resports that IBM prepared to offer GEM as a third-party product and then withdrew that endorsement. The two firms have sipped an agreement covering a number of software offerings, he said. "The products that do compete are [Digital Basench's] Goocurrent P-DLOS and

opview," he remarked. "If there's ny problem, that's what it is." The development deal announced ast month between IBM and Microoft Corp. for future Personal Comneter system software products simoly "reports an extension to a live-year contract," Rowley suggested. "In terms of its impact on un that's aircady been felt."

that's airendy been felt.

At present, 17 firms have signed
OEM agreements for GEM worldwide,
and 65 independent software vendors are developing packages for the
GEM environment. Bowley estimated
that about 100 GEM applications will
be available by December, with at
least helf

Time.

Igital Research will ship two additional GEM applications, GEM Wordchart and GEM Graph, in October, while several other products are well along in development.

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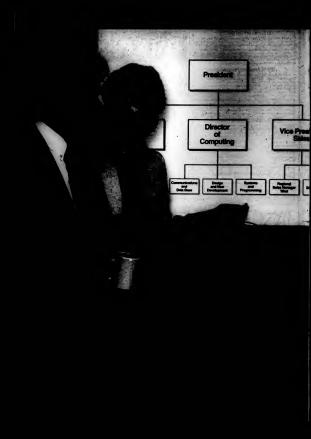
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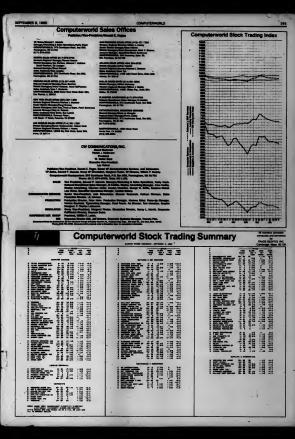
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